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LETTER OF TRANSMITTAL

142-S

DATE:	11-Apr-02	JOB NO.:	75369.00
ATTENTION:			
	Mr. Timothy DeMeo		
RE:	Subsurface Investigation Report		
	Salomon Smith Barney, Inc.		
	7 World Trade Center, New York, NY		

TO Mr. Timothy DeMeo
New York Department of Environmental Protection
Hunters Point Plaza
47-40 21st Street
Long Island City, NY 11101

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REMARKS

Mr. DeMeo: enclosed find the Subsurface Investigation Report for the above-referenced site for your review.

As you are aware, Salomon Smith Barney (SSB) has continue to monitor product thickness in their monitoring wells SSB MW-5 and SSB MW-11 and will continue to do so until their two (2) 6,000-gallon diesel underground storage tanks are removed. You will receive the results of these additional monitoring events as an addendum to this report at a later date.

If you have any questions, please do not hesitate to call. Thank you.

Frances Schultz, Associate Principal & Vice President, GZA GeoEnvironmental, Inc.
Maria Ramirez, Assistant Project Manager, GZA GeoEnvironmental, Inc.

SIGNED: Frances Schultz Maria E. Ramirez

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2B

142-S

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GeoEnvironmental, Inc.

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SUBSURFACE INVESTIGATION REPORT

SALOMON SMITH BARNEY, INC.
7 WORLD TRADE CENTER.
NEW YORK, NEW YORK

Prepared For:
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File No. 75369.00

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SALOMON SMITH BARNEY, INC.

7 WORLD TRADE CENTER, NEW YORK, NY
SUBSURFACE INVESTIGATION

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SALOMON SMITH BARNEY, INC.

7 WORLD TRADE CENTER, NEW YORK, NY
SUBSURFACE INVESTIGATION

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1.0 INTRODUCTION

On behalf of Salomon Smith Barney Inc. (SSB), GZA GeoEnvironmental, Inc. (GZA) has prepared this Subsurface Investigation Report (SIR) describing the activities performed at 7 World Trade Center (7 WTC) in the City of New York, NY (see Figure 1) concerning two (2) underground storage tanks (USTs) operated by SSB. This SIR was completed in accordance with GZA's Proposal for Environmental Services to SSB dated February 4, 2002 and GZA's letter to the New York Department of Environmental Conservation (NYSDEC) dated February 14, 2002.

As a result of the events of September 11, 2001, and the subsequent collapse of the 7 WTC building, two (2) 6,000-gallon diesel fuel, USTs located beneath the loading dock of the building appear to have been compromised. In a letter dated January 14, 2002, NYSDEC required SSB and the Port Authority of New York and New Jersey (PA NY/NJ) to perform a subsurface investigation to "locate free phase product and assess soil/groundwater impacts in the area of 7 WTC". SSB performed a site investigation that included soil, groundwater and light non-aqueous phase liquid (LNAPL) sampling. This investigation found that subsurface soils and groundwater in the vicinity of the two SSB tanks have been impacted.

1.1 PURPOSE AND OBJECTIVE

This Subsurface Investigation was intended to obtain specific data on the nature and extent of contamination and the degree to which the potential release of diesel fuel from the two (2) 6,000-gallon SSB tanks impacted the soils and groundwater in the vicinity of the tanks.

The investigation was designed and conducted in accordance with the NYSDEC January 14, 2002 letter (see Appendix A) and the Spill Technology and Remediation Series (STARS) Memo #1 "Petroleum – Contaminated Soil Guidance Policy", August 1992. This Subsurface Investigation consisted of the activities listed below.

1. *Tank Area Investigation* consisting of:
   - Locating the access ways of the USTs;
   - Clearing access ways of construction debris;
   - Exposing the top of the tanks; and
   - Determining the contents of the tanks.

2. *Soil Investigation* consisting of:
   - Soil boring installation; and
   - Soil sampling.

3. *Groundwater Investigation* consisting of:
   - Monitoring well installation;
   - Water level measurements;
   - Product thickness monitoring; and
   - Monitoring well sampling.

4. *Petroleum Product Investigation* consisting of:
   - Sampling and analyzing LNAPL in area adjacent to tanks.

5. *Petroleum Product Recovery* consisting of:
   - Evacuating and containerizing LNAPL from wells.

1.2 SITE LOCATION AND HISTORY

7 WTC was part of the 16-acre, seven-building, World Trade Center Complex constructed by PA NY/NJ. The Complex was constructed in the late 1960's in southwestern Manhattan (see Figure 1). 7 WTC was built in 1987 as an addition to the World Trade Center Complex. The concrete, steel-reinforced, 47-story office building consisted of approximately 2-million square feet and was approximately 615 feet tall. Washington Street surrounded the building to the west, Barclay Street to the north, West Broadway to the east and Vesey Street to the south. In the late 1980's, two (2) 6,000-gallon diesel fuel USTs were installed adjacent to the southern portion of the building, beneath the loading dock along Vesey Street (see Figure 2).

The Site is defined as the loading dock area where the two (2) SSB tanks are located, for the purposes of this SIR. These tanks contained diesel fuel to operate SSB's emergency generators. There are reportedly two (2) other 11,000-gallon steel diesel fuel USTs, owned by Silverstein Properties, located approximately 40 feet to the east of, and parallel to the SSB tanks.

Due to the September 11, 2001 attacks, 7 WTC was damaged, extensively burned and subsequently collapsed. Due to the impact of the falling building and fire, the two (2) 6,000-gallon diesel fuel USTs appear to have been compromised.

1.3 SITE DESCRIPTION

Access to the entire WTC complex area ("Ground Zero") is restricted. Inside the controlled perimeter, the Site is accessible from the east and west by temporary unpaved access roads. The majority of the above grade debris from the collapsed 7 WTC building has been removed leaving the Site generally flat.

While free of large above grade obstructions, the Site is covered with smaller debris (Photo A). The long axes of the two (2) SSB tanks are oriented north to south with the northern ends of the tanks approximately 10 feet from the former loading dock

wall. In the area of the tanks the loading dock wall is missing. A void measuring approximately 8 feet long by 5 feet wide with a depth of approximately 10 feet is near the north end of the eastern SSB tank. Debris, such as wood, concrete and steel rebar are visible in this opening.

Visible at grade in the area of the SSB tanks, is the top of the former loading dock slab. According to the construction information provided by SSB (see Figure 4) the loading dock slab is approximately 28-inches thick concrete with the top of the slab located at ground surface. The tanks were formerly accessible through a standard metal manhole set flush with the surface of the loading dock slab. The manholes sealed the top of the access ways through the concrete slab. Beneath the slab, concrete access "chimneys" extended down to within 6 inches of the tanks. A ladder inside each access chimney was anchored to the underside of the loading dock slab and to the tank providing access to the top of the tank. The tops of the tanks were approximately 6 feet below the top of the loading dock slab. Fiberglass collars extend from approximately 3 feet bg to the tops of the tanks. At the bottom of the access ways, set flush with the tanks are round metal hatches bolted in place, at the southern end of each tank. The tanks are on a concrete anti-flotation pad.

As part of this investigation, GZA and its contractors removed the damaged manhole covers in the loading dock slab and then covered the manholes with wooden boards, labeled "manhole" and secured them in place.

1.4 PROJECT BACKGROUND

According to SSB, the USTs were installed in accordance with NYSDEC guidelines during tenant build out construction during 1989-1990. Both tanks had the following features: double-walled fiberglass construction, leak detection between the tank walls, spill prevention equipment, overfill prevention valves and secondary containment. Based on a plan depicting the construction details of the tanks (see Figure 4), the surface of the tanks are approximately 6 feet below the top of the loading dock slab.

Based on information on the NYSDEC Spill Report Form, dated October 24, 2001 (see Appendix A), the interiors of the USTs were accessed through the tank manholes by NYSDEC, who determined that the tanks contained a mixture of diesel and transformer oil, water and soil. Consequently, NYSDEC required that three (3) groundwater monitoring wells be installed, monitored and sampled in the vicinity of the SSB tanks.

Consolidated Edison of New York (ConEd) recently installed several monitoring wells in the area. GZA requested and received well construction information and laboratory data for these wells directly from ConEd. Based on a review of the data provided, GZA decided that monitoring well ConEd MW-5 was suitably constructed and located to be useful in this investigation. ConEd MW-5 is located

at the intersection of Vesey Street and Washington Street (see Figure 3), downgradient from the SSB tanks. NYSDEC agreed that ConEd MW-5 plus two (2) additional wells, to be installed in the vicinity of the USTs, would provide sufficient data to determine if soil and groundwater have been impacted above NYSDEC standards.

On February 1, 2002, under the supervision of PA NY/NJ, Craig Test Boring Co., Inc, (Craig) of Sayreville, New Jersey, began the installation of wells at the Site as required by NYSDEC. That same day, PA NY/NJ abandoned its efforts and declined to execute any further work associated with the NYSDEC requested investigation. Craig suspended drilling activities and proceeded to demobilize from the Site. Once SSB became aware of the PA NY/NJ abandonment of work, SSB informed NYSDEC that it would contract the necessary parties to install the wells and complete the investigation. SSB retained GZA to complete the Subsurface Investigation activities required by NYSDEC.

2.0 SITE INVESTIGATION

GZA completed the activities for this Subsurface Investigation in general accordance with GZA's *Schedule Update on Subsurface Investigation at 7 World Trade Center, New York, NY* submitted to the NYSDEC on February 14, 2002.

Site Investigation activities included:

- Tank area investigation;
- Soil investigation;
- Groundwater investigation;
- Petroleum product investigation;
- Product recovery; and
- Survey.

2.1 TANK AREA INVESTIGATION

Tank area investigation included: locating the tanks, locating the access ways of the USTs, clearing access ways of debris, exposing the top of the tanks and accessing their contents. After locating the tanks, accessing them and determining that they contained no petroleum product, GZA installed two (2) monitoring wells proximal to the USTs at the locations shown in Figure 3. Soil and groundwater samples were collected and submitted to the laboratory for analysis. In addition, a sample of LNAPL, observed in one of the wells, was submitted to the laboratory for Petroleum ID analysis. Table 1 contains a list of the number of samples collected, their corresponding matrix and the analyses performed.

2.1.1 Locating UST access ways and clearing debris

GZA located the USTs using a site plan provided by SSB, which is included in this report as Figure 4. Based on this plan, each tank has two access ways approximately 3-feet in diameter. On February 1, 2002, GZA located three (3) of these access ways, two for the eastern tank and the northern access way for the western tank. The second (southern) access way for the western tank could not be located as it was buried under an existing unpaved access road.

On February 11, 2002, under the supervision of GZA, Clean Venture/Cycle Chem (Clean Venture) of Elizabeth, New Jersey, exposed the three (3) tank access ways by hand-removing large pieces of debris covering them exposing debris and soil in the access ways. Since the diameter of the access ways did not allow the use of shovels or other hand-excavating tools, Clean Venture used a vacuum truck (Guzzler) to remove soil and smaller debris (pieces of metal, bricks, rocks, etc.) from inside the access ways. GZA recorded Clean Venture's activities during the clearing of the access ways with photographs included in Appendix B.

2.1.2 Exposing the top of the tanks

Clean Venture cleared debris from above the southern access way of the eastern tank. Once that area was free of debris, GZA observed that the cover and rim of the manhole were broken into several pieces and had fallen inside the access chimney. Clean Venture pulled these pieces out as the Guzzler exposed them (see Photograph No. 3 in Appendix A). As the Guzzler further exposed the interior of the access way, GZA observed the fiberglass collar extending from approximately 3 feet below the top surface of the slab almost to the top of the tank. This collar was also broken into several pieces. Clean Venture removed the broken pieces out of the access way, the remainder of the collar was left in place. This fiberglass collar is clearly visible in Photograph No. 8 in Appendix B.

The metal hatch cover to the tank was encountered at approximately 4½ feet bg (see Photograph 8 in Appendix B). Clean Venture tried unsuccessfully to open this cover. The bolts securing the cover were rusted; the threads filled with soil and could not be turned. Efforts to open this cover were abandoned. Clean Venture then proceeded to clean the access way on the opposite end of the tank (northern end). GZA did not observe a cover on this manhole. The Guzzler again exposed a broken fiberglass collar at approximately 3 feet bg. As the top of the tank was exposed, GZA observed broken piping and wiring (see Photograph No. 6, 9 and 10 in Appendix B).

Clean Venture proceeded to clean the northern access way of the eastern tank. The Guzzler exposed an intact fiberglass collar at approximately 3 feet bg. The top of the tank was encountered at approximately 4½ feet bg. GZA observed soil, gravel,

pieces of broken metal and wiring on top of the tank (see Photograph 7 in Appendix B).

2.1.3 Accessing the contents of the tanks

GZA introduced a 10-foot, graduated wooden measuring rod from the ground surface into the tanks through their fill ports in the northern access ways to determine the amount of product, if any, in the tanks. In addition, GZA used a petroleum gauging paste (Kolor-Kut™), which changes color upon contact with fuel oil, on the tip of the measuring rod to confirm the presence of product inside the tanks.

The measuring rod indicated that the eastern tank was empty. The rod was easily advanced to the bottom of this tank. As the rod was pulled back from inside the tank, GZA observed that the tip was dry. The Kolor-Kut™ paste did not indicate the presence of product inside the tank.

GZA could not advance the measuring rod into the western tank more than two feet before refusal. GZA noted that as the measuring rod was pushed into the tank, and moved around within the fill port opening, soil could be felt and heard from the ground surface. Wet soil covered the tip of the measuring rod after it was pulled back from inside the tank. GZA did not observe odors or evidence of product on the tip of the measuring rod. The Kolor-Kut™ paste did not indicate the presence of product inside the tank.

Clean Venture covered the manhole openings to protect the tanks from vehicular traffic and for the safety of workers in the area. Sheets of wood and wooden boards were placed over the manholes and secured with heavy pieces of metal and rocks. GZA used orange spray paint to label the location of the manholes (see Photograph 11 in Appendix B).

2.2 SOIL INVESTIGATION

2.2.1 Soil Boring Installation

On February 12 and 13, 2002, Craig installed two (2) soil borings in the vicinity of the USTs. One boring, identified as SB-1, was installed approximately 16 feet to the east of the eastern tank. A second boring, identified as SB-2, was installed approximately 18 feet to the west of the western tank (see Figure 3). Both borings were completed as permanent monitoring wells. During the soil boring installation, GZA classified soils using visual examination in accordance with the Unified Classification System. A log of each boring was prepared with appropriate stratification lines, blow counts, sample identification, sample depth interval, recovery and date. Soil boring logs are included in Appendix C.

Boreholes were advanced into the overburden by a drill rig equipped with 6-inch diameter hollow stem augers (HSA). Drilling fluids were not used. Borings were advanced to a depth of approximately 11 to 12 feet into the water table resulting in boring depths of 25 feet below grade (bg). Groundwater was found at approximately 13.5 feet bg in SB-1 and 14.0 feet bg in SB-2.

Soil samples from both borings were obtained in advance of the auger, by driving a 2-inch inside diameter by 24-inch long split spoon sampler with a 140 pound hammer falling 30 inches, in general accordance with the American Society for Testing and Materials test method D1586 Standard Penetration Test (ASTM D-1586). A Thermo Environmental (model 580 EZ) organic vapor meter (OVM) equipped with a 10.6 electron-volts (eV) photo ionization detector (PID) was used to determine the presence of volatile organic compounds (VOCs) in the soils. The concentration of VOCs in the soils was recorded by holding the PID probe directly over the split spoon immediately after opening it. Samples with the highest PID readings were selected for laboratory analysis.

2.2.2 Soil Sampling

Per NYSDEC guidance documents and letter dated January 14, 2002 (see Appendix A), soil samples were collected and analyzed for VOCs by EPA Method 8021 and semi-volatile organics (SVOCs) by EPA Method 8270. Samples were extracted from the sampling spoon by slicing the core (if intact) vertically down the middle with a sharp knife, and scooping sufficient sample from the long axis of the split core with a decontaminated stainless steel spoon. If the core was not intact, then upon opening the barrel, the contents were scooped directly with the stainless steel sampling spoon into the sample jars. Samples for VOC analysis were collected and transferred to laboratory-cleaned, unpreserved, sample containers immediately after opening and slicing the split spoon sample. Other sample bottles were filled subsequently. If the core was not homogeneous, representative portions of each type of material within the spoon were collected.

Samples for VOCs and SVOCs were collected from the interval exhibiting the highest PID readings. These two samples were from depths of 4 to 6 feet bg in SB-1 and from 6 to 8 feet bg in SB-2.

Samples were placed in an ice-packed cooler and transported to Severn Trent Laboratories (STL) in Edison, New Jersey (NY Certification # 11452) for analysis. Analytical results are discussed in Section 6.00.

Soil cuttings were spread on the ground as they did not exhibit visual evidence of contamination. PID readings ranged from 0 ppm to 11.0 ppm.

2.3 GROUNDWATER INVESTIGATION

Based on the US Geological Survey Map, 7.5-Minute Jersey City, NY-NJ Quadrangle 1967, Photorevised 1981, groundwater flow direction beneath the Site is expected to be to the west, toward the Hudson River. However, data collected by GZA and ConEd recently indicate that groundwater flow is generally to the south. Depth to water ranges from 13 to 15 feet bg.

2.3.1 Monitoring Well Installation

SB-1 and SB-2 were completed as permanent monitoring wells. SB-1 was completed as SSB MW-11 and SB-2 as SSB MW-5 (see Figure 3). Both wells were screened across the water table so that sampling could evaluate groundwater impact from the potential release from the tanks. Well construction details are included in Appendix D.

Both monitoring wells were installed as follows:

Wells were constructed of 4-inch inside diameter, flush coupled polyvinyl chloride (PVC) riser and screen with an end cap. Wells were installed such that the screen interval crossed the water table. A 14-foot section of 0.10-inch machine slotted PVC screen with an end cap and an 11-foot section of PVC riser were connected and set into each borehole. The PVC screen extended approximately 3 feet above the water table in SB-1 and approximately 2 feet in SB-2.

The annular space between the screen and the native material was filled with a #2 sand filter, extending 2 feet above the top of the screen. A 7-foot thick bentonite slurry seal was poured above the sand-pack, and the boring was sealed with 1 foot of cement, extending to the ground surface. Both monitoring wells were completed with a padlocked steel and plastic gripper cap and a flush-mount protective casing with a bolted down well cover set into a concrete pad. On February 15, 2002 GZA provided copies of the keys to the well padlocks to NYSDEC.

After installation, both wells were developed using a submersible pump to create a hydraulic connection between the well and the water-bearing zone and remove accumulated fines. Approximately 40-gallons of water were evacuated from SSB MW-5 and 35 gallons from SSB MW-11.

GZA detected a slight petroleum odor during the development of SSB MW-5. No sheens and/or odors were detected during development of SSB MW-11. Development water from SSB-MW-5 was containerized in a 55-gallon drum and staged on Site for proper disposal. Development water from SSB MW-11 was discharged to the ground in the proximity of the well.

2.3.1.1 Monitoring Well ConEd MW-5

ConEd MW-5 is located at the intersection of Vesey Street and Washington Street (see Figure 3). Based on the information provided by ConEd to GZA, ConEd MW-5 was installed in January 2002. This well was completed at 25 feet bg and was constructed of 6-inch inside diameter, flush PVC riser and screen with an end cap. ConEd installed this well such that the screen interval crossed the water table. A 15-foot section of 0.10-inch machine slotted PVC screen and a 10-foot section of PVC riser were connected and set into the borehole. PVC screen extended approximately 5 feet above the water table.

ConEd did not provide GZA with a boring log or well construction diagram for this well.

2.3.2 Water Level and Product Thickness Measurements

After development, wells were allowed to equilibrate for several hours before measuring static water levels. Water levels were measured from a marked point on the top of the PVC casing and are accurate to within 0.1 foot. Depth to water for SSB MW-5 was recorded at 13.0 feet below measuring point (bmp) and for SSB MW-11 at 13.6 feet bmp (see Table 2). While collecting depth to water measurements at SSB MW-11, GZA observed a thin layer of LNAPL on top of the water. No LNAPL was observed in SSB MW-5.

On February 15 and March 12, 2002, GZA measured water levels and LNAPL thickness in SSB MW-5 and SSB MW-11 prior to purging/sampling (see Table 2). GZA recorded the water level in SSB MW-5 at 14.5 feet bmp. LNAPL thickness was recorded at 1/32-inch in SSB MW-11. No LNAPL was detected in SSB MW-5.

On March 12, GZA recorded the water level in SSB MW-5 at 15.2 feet bmp, at 14.4 feet bmp in SSB MW-11 and 14.8 feet below top of casing in ConEd MW-5. GZA recorded an LNAPL thickness of 2½-inches in SSB MW-11. No LNAPL was detected in SSB MW-5 or ConEd MW-5.

2.3.3 Monitoring Well Sampling

On February 15, 2002, after the wells had stabilized for 48 hours after installation, GZA sampled SSB MW-5 and SSB MW-11. On March 8, 2002, GZA received authorization from ConEd to sample ConEd MW-5. On March 12, 2002 GZA sampled SSB MW-5, SSB MW-11 and ConEd MW-5.

Prior to sampling the wells, GZA used a PID to monitor for the presence of VOCs in the well casing. This procedure was accomplished by cracking open the well cap and inserting the PID probe to sample the headspace at each well.

After obtaining headspace readings, GZA utilized a water-oil interface meter to monitor for the presence of product in the wells. GZA did not detect product in SSB MW-5 on February 15, or in SSB MW-5 or ConEd MW-5 on March 12, 2002. However, LNAPL was detected in SSB MW-11 (see Section 2.3.2 above and Table 3) on both February 15 and March 12, 2002.

During the February 15, 2002 sampling event, a groundwater sample was collected from SSB MW-5 and submitted to the laboratory for VOC analysis by EPA Method 8021, SVOCs by EPA Method 8270 and Petroleum ID analysis by New York Department of Health Method 310-3 (NYSDOH 310-3). As a result of the presence of LNAPL, a groundwater sample was not collected from SSB MW-11. This well was not purged, but a sample of the LNAPL was collected and submitted to the laboratory for Petroleum ID analysis by NYSDOH 310-3. The LNAPL sample was also submitted to the laboratory for a petroleum fingerprint analysis by Gas Chromatography/Flame Ionization detector (GC/FID) method to confirm the results obtained from the NYSDOH 31-3 analysis.

On March 12, 2002 GZA purged and sampled SSB MW-5 and ConEd MW-5. Groundwater samples were submitted to the laboratory for VOC analysis by EPA Method 8021 and SVOCs by EPA Method 8270. As a result of the presence of LNAPL a groundwater sample was not collected from SSB MW-11. This well was not purged, but a sample of the LNAPL was collected and submitted to the laboratory for Petroleum ID analysis by NYSDOH 310-3 and GC/FID methods.

On both sampling events (February 15 and March 12, 2002), GZA used a submersible pump with dedicated polyethylene tubing to purge the wells. The required volume to be purged was determined by calculating the volume of standing water in the well column. This was accomplished by measuring the depth to water, minus the overall depth of the well, multiplied by the number of gallons per linear foot for a standard 4 and 6-inch diameter well. Between three and five well water volumes were evacuated from each well before sampling. Approximately 30 gallons of water were evacuated form SSB MW-5 during each sampling event. Approximately 20 gallons of water were evacuated from ConEd MW-5 before the well became dry. After each well volume was evacuated from the wells, GZA recorded visual appearance of the water, pH, temperature and specific conductivity. Table 3 presents the water quality parameters recorded during the purging and sampling activities.

No floating product was observed during the purging and sampling of SSB MW-5 or ConEd MW-5. However, a petroleum odor and a very slight sheen were detected in SSB MW-5. A petroleum odor was detected in ConEd MW-5. Purge water from both wells was containerized in 55-gallon steel drums and staged on Site for proper disposal. After purging, wells were allowed to recover, and then groundwater samples were collected.

GZA slowly lowered a dedicated, disposable, laboratory-cleaned, teflon bailer, equipped with a check valve at the end, into the water column with minimal water agitation. The bailer was allowed to fill with water and then pulled out of the well. The first full bailer was used to fill VOC sample containers. Three 40-milliliter (ml) glass vials (with Teflon® septa) were filled by gently pouring water from the top of the bailer into the vial until overflowing and a convex meniscus was formed. The vial was then be capped, inverted and inspected for air pockets/bubbles that may have been present on the inside surfaces of the vial. Samples for analysis of VOCs were chemically preserved with hydrochloric acid. Other sample bottles were filled by refilling the bailer as needed.

GZA collected one field blank and one trip blank for quality assurance/quality control purposes during each sampling event. Samples were placed in an ice-packed cooler and transported to STL. A chain of custody was maintained from time of sample collection to preparation of laboratory data report.

2.3.4 LNAPL Sampling

GZA collected a sample of LNAPL from SSB MW-11 and submitted it to the laboratory for Petroleum ID/Petroleum fingerprint analysis. A dedicated, disposable, laboratory-cleaned, Teflon® bailer with a check valve was lowered gently, with minimal water agitation, into the well and allowed to fill a minimal amount. The bailer was then retracted and its water contents were drained into a 55-gallon drum (staged on Site for proper disposal). The remaining LNAPL left in the bailer was poured into a laboratory-cleaned, unpreserved sample bottle. This process was repeated several times until sufficient volume of LNAPL was obtained for analysis.

3.0 WATER LEVEL AND LNAPL THICKNESS MONITORING

In accordance with a NYSDEC request, GZA monitored groundwater levels and LNAPL thickness in SSB MW-5, SSB MW-11 and ConEd MW-5 for 4 weeks subsequent to the first sampling event of February 15, 2002. GZA monitored these wells weekly from February 20 to March 12, 2002. Table 2 shows the weekly groundwater readings and LNAPL thickness information. NYSDEC has requested that weekly monitoring of the wells continue until the USTs are removed. SSB has agreed and has authorized GZA to continue weekly monitoring of the wells until the USTs are removed. After the completion of this additional monitoring, GZA will supplement this SIR with a letter report listing the groundwater monitoring information from March 19 until the USTs are removed.

GZA notified NYSDEC, PA NY/NJ, Silverstein Properties and ConEd 24 hours prior to each weekly monitoring event. After each monitoring event, the well caps and steel bolt covers at each well were locked and secured. During the week of

February 24, 2002, SSB MW-5 and SSB MW-11 were monitored on separate days of the week (February 28 and February 26, respectively) because on February 26, GZA could not locate SSB MW-5 as it had been covered with new road fill material. On February 28, GZA located SSB MW-5, excavated it and collected weekly field measurements.

PID Headspace Monitoring

During each weekly monitoring event, GZA used a Thermo Environmental (model 580B) OVM, equipped with a 10.6 eV lamp, to monitor for the presence of VOCs within the headspace of each well after removing the well caps. During the 4 weeks of monitoring, PID readings ranged from 0.2 to 5.4 ppm in SSB MW-5 and from 70.0 to 128.4 ppm in SSB MW-11. Due to lack of access, no PID readings were taken in ConEd MW-5 during these events.

LNAPL Thickness Monitoring

GZA used a water-oil interface meter to measure LNAPL thickness in SSB MW-5, SSB MW-11 and ConEd MW-5. If the interface meter detected LNAPL, a clear bailer was used to confirm the presence of petroleum product.

A water-oil interface meter was used first to measure the product at each well, if any. The interface meter makes a distinct sound depending on the matrix it encounters (e.g., water or product). GZA slowly lowered the interface meter into the well, recording the depth to product, if encountered, and water. LNAPL thickness was calculated by subtracting the depth to water from the depth to product.

To confirm the presence of LNAPL in the well, GZA lowered a 1½-inch diameter, clear, teflon bailer, equipped with a check valve at the bottom and allowed it to fill a minimal amount. The bailer was then pulled out of the well. LNAPL could be seen floating on top of the water inside the bailer.

The water-oil interface meter detected LNAPL in SSB MW-11 during the 4 weekly monitoring events. The presence of LNAPL in this well was confirmed with a clear, teflon bailer. On February 20 and 26, the water-oil interface meter did not provide a clear tone indicating the presence of LNAPL because the LNAPL layer was too thin to measure (approximately 1/32-inch). On March 5 and March 12, the water-oil interface meter registered product thickness at 0.3-inches and 2.5-inches, respectively.

The water-oil interface meter did not detect product in SSB MW-5 or ConEd MW-5 during any of the monitoring events.

Groundwater Level Monitoring

Table 2 presents the groundwater level measurements and water elevations as recorded during the 4 weekly monitoring events.

Groundwater levels in SSB MW-5 ranged from 15.2 feet bmp on March 5, 2002 to 13.9 feet bmp on March 12.

Groundwater levels in SSB MW-11 ranged from 14.4 feet bmp on March 12 to 12.4 feet bmp on February 26.

Groundwater in ConEd MW-5 was recorded at approximately 13.5 feet bmp and remained relatively the same throughout the duration of the 4 weekly monitoring activities.

4.0 SURVEY

GZA surveyed the vertical and horizontal locations of SSB MW-5, SSB MW-11 and ConEd MW-5. Arbitrarily establishing the base of the southeast corner of the Verizon building as elevation 100 feet, GZA recorded the relative elevation of the ground surface and the top of the PVC riser casing for each well. Vertical measurements are accurate to within 0.1 foot.

GZA located the wells horizontally by measuring their distance from the northern and southern corners of the Verizon Building (located to the west of the Site) (see Figure 2 and 3). Horizontal measurements are accurate to within 0.1 foot.

The scaled plan presented as Figure 3 shows the distance of the three wells in relation to the Verizon Building, the SSB tanks and each other. The vertical elevation data for each monitoring well is presented in Table 2.

Based on the survey data and groundwater elevations, GZA prepared a groundwater contour map to determine the general flow direction of the groundwater beneath the Site. Based on the contour map, groundwater flows to the south (see Figure 3).

5.0 ANALYTICAL SAMPLING PROGRAM

Samples of soil, groundwater and LNAPL were collected and submitted for analytical testing per the specifications stated on the NYSDEC letter dated January 14, 2002 (see Appendix A). The sampling program for this investigation is presented below. Samples were analyzed by STL of Edison, New Jersey (NY Certification # 11452) in accordance with ASP protocols.

Soil Samples

Two (2) soil samples (with the highest PID readings) were collected from the soil borings installed in the vicinity of the USTs. One sample was collected from SB-1 from 4 to 6 feet bg. Another sample was collected from SB-2 from 6 to 8 feet bg. These samples were analyzed for:

- STARS Volatile Organic Compounds (STARS-VOC EPA Method 8021)
- STARS Semi-Volatile Organic Compounds (STARS-VOC EPA Method 8270)

Groundwater

Two (2) groundwater samples were collected from SSB MW-5; one on February 15 and another on March 12, 2002.

One (1) groundwater sample was collected from ConEd MW-5 on March 12, 2002.

Two (2) field blanks and two (2) trip blanks were prepared for quality assurance/quality control purposes. A set of one field blank and one trip blank was prepared on February 15 and another set on March 12. These samples were analyzed for:

- STARS Volatile Organic Compounds (STARS-VOC EPA Method 8021)
- STARS Semi-Volatile Organic Compounds (STARS-VOC EPA Method 8270)

Petroleum Product Sample

Two (2) samples of LNAPL were collected from SSB MW-11; one on February 15 and another on and March 12, 2002. These samples were analyzed for:

- Petroleum ID (NYSDOH 310-3)
- Petroleum Fingerprint (GC/FID)

5.1 SAMPLE HANDLING

Once sample containers were filled, they were immediately placed in a sample cooler with ice to maintain them at approximately 4° C. Sample bottles in each sample cooler were individually labeled with an adhesive identification label provided by the laboratory. GZA transported samples to STL under chain-of-custody protocols. A chain-of-custody form followed the same path as the sample containers from the Site to the laboratory. GZA indicated the sample designation/location number in the space provided on the chain-of-custody form for each sample (see Appendix E). The chain-of-custody forms were signed and placed in a sealed plastic Ziploc bag inside the cooler. Sample coolers were sealed and couriered to the laboratory within 24 hours after sample collection.

6.0 ANALYTICAL LABORATORY RESULTS

The results of the analysis of samples collected for analysis are summarized below:

6.1 SOILS ANALYTICAL RESULTS

Classification of soils from SB-1 and SB-2 indicated that the soils consist primarily of fill and brown, coarse to medium sand with some sandy silt. Clay is found at approximately 24 to 25 feet bg.

Analytical results for soil samples are summarized on Table 6. A complete laboratory data package is included as Appendix E. On Table 6 the soil sample results are compared to the New York Technical and Administrative Guidance Memorandum (TAGM) #4046 soil cleanup objectives to protect groundwater quality (TAGM 4046). The TAGM 4046 cleanup objectives are based on protecting drinking water sources and residential exposures to soils. This Site, however, is neither residential nor in an area where groundwater is or will be used for drinking water. As such, these cleanup objectives may be unnecessarily conservative for this application. However, to establish a baseline for comparison, TAGM 4046 soil cleanup objectives have been used as an initial screening tool.

No VOCs were detected above the TAGM 4046 recommended soil cleanup objectives in SB-1 or SB-2. However, samples from both borings had dilution factors of 50 due to high background petroleum hydrocarbon interferences.

Several SVOCs were detected in SB-1 and SB-2 at concentrations above their respective TAGM 4046 soil cleanup objectives. Samples from both borings had dilution factors of 5 due to background petroleum hydrocarbon interferences. SB-1 had a concentration of non-targeted compounds of 16,290 micrograms per kilograms (ug/kg) and SB-2 of 190 ug/kg.

SB-1 had concentrations of benzo(a)anthracene at 1,600 ug/kg, chrysene at 1,700 ug/kg and benzo(b)fluoranthene at 2,300 ug/kg, above the TAGM soil cleanup objective criteria of 224 ug/kg, 600 ug/kg and 1,100 ug/kg, respectively. Benzo(a)pyrene was found in both borings at 1,700 ug/kg in SB-1 and 130 ug/kg in SB-2, above the TAGM recommended soil cleanup objective of 62 ug/kg or the laboratory minimum detection limit (mdl). Dibenz(a,h)anthracene was found in SB-1 at 350 ug/kg, above the TAGM soil cleanup objective of 14 ug/kg or the mdl. This compound was also found in SB-2 at a concentration of 170 ug/kg, higher than the mdl.

6.2 GROUNDWATER LABORATORY RESULTS

Groundwater sample results were compared to the New York Technical and Operational Guidance Series (TOGS) protection for source of drinking water (Water Class GA) quality standards. Class GA (potable water) standards are the most conservative standards and are used as a basis of comparison to protect the best usage of the water body (sole source aquifer). Despite the fact that the Site is in an area where groundwater is not and will not be used as a drinking water source, the Class GA TOGS were used as a baseline to evaluate the groundwater beneath the Site.

Analytical results for the two (2) groundwater sampling events are summarized on Table 7. Complete laboratory data packages for samples collected on February 15 and March 12, 2002 are included as Appendix E.

No VOCs or SVOCs were found in SSB MW-5 during the February 15, 2002 sampling event.

Several VOCs were detected below the TOGS groundwater quality standards in the groundwater samples collected from SSB MW-5 and ConEd MW-5 on March 12, 2002. MTBE was the only analyte detected at a concentration greater than the applicable TOGS standard of 120 micrograms per liter (ug/l). MTBE was detected at 130 ug/l in ConEd MW-5. No SVOCs were found in SSB MW-5 or ConEd MW-5.

No VOCs or SVOCs were found in the quality assurance/quality control samples (field blanks and trip blanks).

6.3 LNAPL LABORATORY ANALYSIS

LNAPL was only found in SSB MW-11. Samples of this material were collected on February 15 and March 12, 2002 and analyzed using two different methods, NYSDOH 310-3 and GC/FID.

Table 8 summarizes the analytical results for the two samples of LNAPL collected from SSB MW-11. Complete laboratory data packages for the samples collected on February 15 and March 12, 2002 are included as Appendix E.

The LNAPL sample collected on February 15, 2002 was identified by the NYSDOH 310-3 method as Fuel Oil #4. The same method identified the LNAPL sample collected on March 12, 2002 as Diesel Fuel/Fuel Oil #2. The GC/FID fingerprint analysis identified both LNAPL samples (February 15 and March 12) as Diesel Fuel/Fuel Oil #2.

The February 15 field blank submitted to the laboratory for NYSDOH 310-3 showed a concentration of unknown hydrocarbons. The laboratory is confirming this abnormality. At the time of preparation of this SIR, clarification of this anomaly has not been received from the laboratory. Upon receipt, the data will be forwarded to NYSDEC as an addendum/appendix to this SIR.

7.0 CONCLUSIONS AND RECOMMENDATIONS

- GZA concludes from analytical data that the soils and groundwater in the immediate vicinity of the SSB tanks have been impacted by #2/diesel fuel.

  Based on laboratory analysis, the fuel in soils appears to be modified compared to pure fuel oil product by having greater concentrations of polyaromatic hydrocarbons (PAHs) and lower concentrations of VOCs. The relative absence of VOCs in the soil samples suggests that VOCs may have somehow been "lost". This may be an artifact of sample dilution required due to the high concentrations of PAH petroleum hydrocarbon compounds. In addition, the samples indicated extraordinary concentrations of pyrogenic PAH compounds.

- Based on the absence of contamination in soil and groundwater samples from boring (SB-2)/monitoring well (SSB MW-5) and ConEd MW-5, installed downgradient of the tanks, GZA concludes that the LNAPL found on the water table is localized to the area around the tanks, having a migrated only a limited distance downgradient.

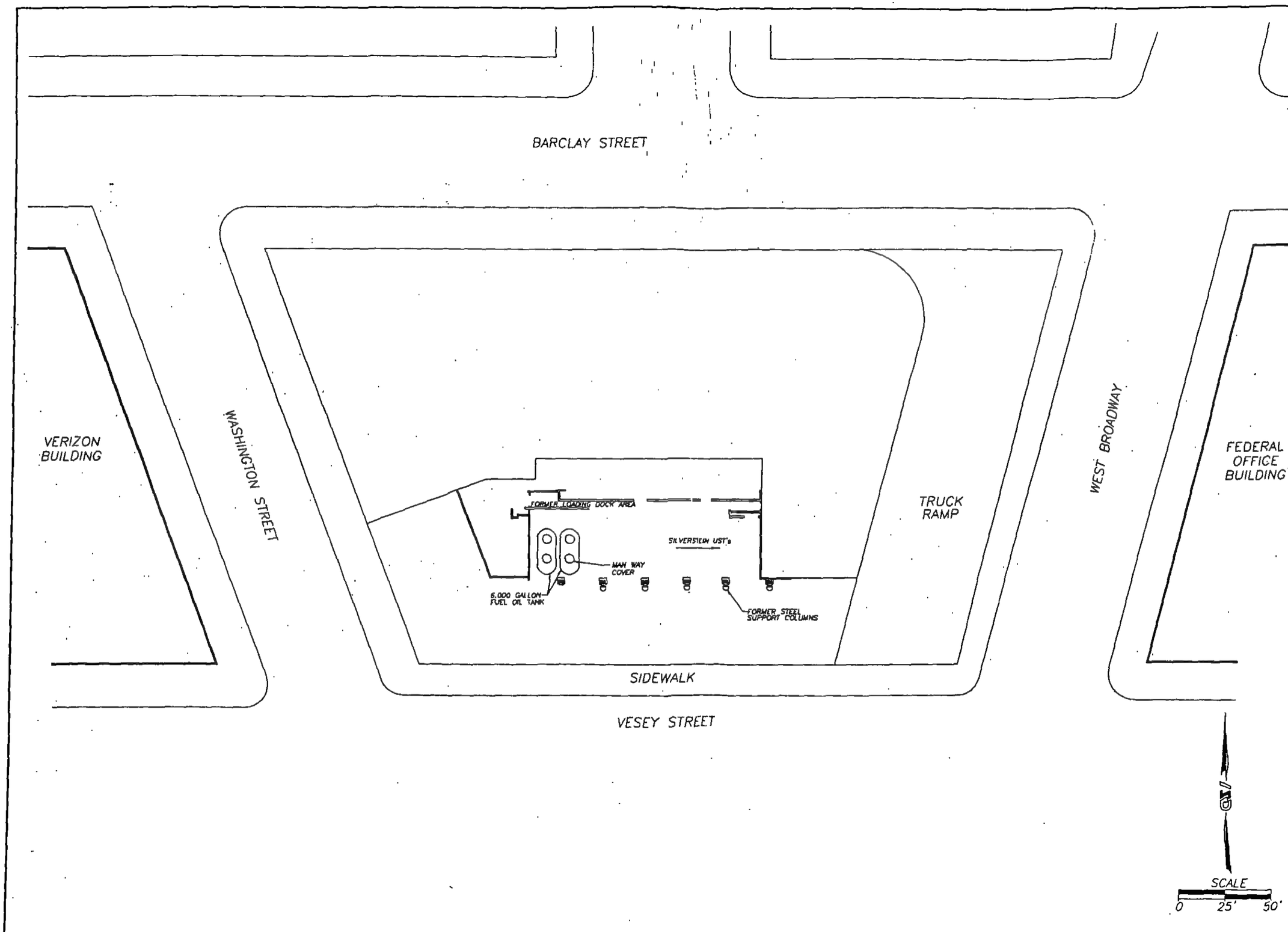
- GZA recommends that the two (2) 6,000-gallon diesel USTs be excavated and removed. In addition, heavily impacted soils should be removed from the tank excavation and the excavation backfilled with clean soils.

- GZA recommends that LNAPL and impacted groundwater encountered during tank excavation and removal activities be pumped into steel drums or a vacuum-truck for proper disposal.

- GZA recommends installing a monitoring well in the middle of the tank excavation to allow monitoring of the quality of the groundwater. GZA also recommends that SSB MW-5 and SSB MW-11 be maintained for future groundwater monitoring after the tanks are removed. SSB MW-5, SSB MW-11 and the well to be installed in the tank excavation will be able to provide data to confirm reduction in the impact to groundwater resulting from removal of the tanks. These wells will also be able to indicate if contamination migrates further downgradient.

- GZA further recommends that until the tanks are removed, SSB MW-11 be monitored to determine fluctuations in LNAPL thickness. A passive method to recover as much LNAPL as possible from this well should be instituted. An

absorbent sock or evacuating LNAPL from the water column with a bailer are appropriate and cost effective methods for product recovery.



NO.	DESCRIPTION	BY	DATE

ACKNOWLEDGEMENT:

PROJECT MGR: M.R.
DESIGNED BY: OPERATOR: E.M.
REVIEWED BY: DATE: 3/15/2002

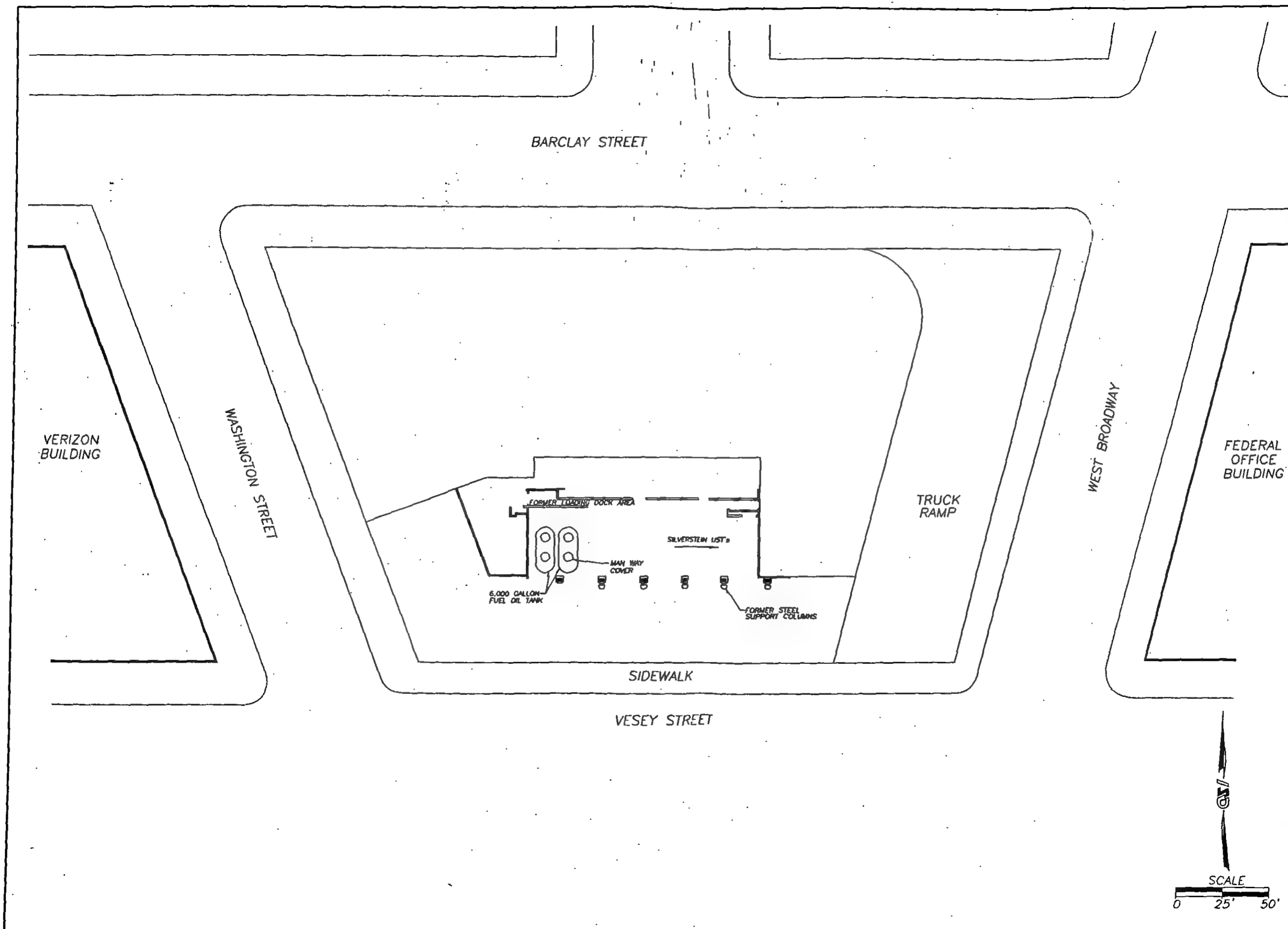
GZA GeoEnvironmental Inc

Salomon Smith Barney, Inc.
7 WTC Subsurface Investigation
New York, New York

Site Plan

PROJECT NO.
75369.00

FIGURE NO.



REV. NO.	DESCRIPTION	BY	DATE
	ACKNOWLEDGEMENT:		

PROJECT MGR: M.R.
DESIGNED BY:
REVIEWED BY:
OPERATOR: E.M.
DATE: 3/15/2002

GZA

Salomon Smith Barney, Inc.
7 WTC Subsurface Investigation
New York, New York

Site Plan

PROJECT NO.
75369.00

FIGURE NO.

TABLES

TABLES

SALOMON SMITH BARNEY, INC.
7 WORLD TRADE CENTER
SUBSURFACE INVESTIGATION

TABLE 1 - SAMPLE COLLECTION SUMMARY

Sample ID	Matrix	Sample Depth Interval (ft. bgs)	Number of Samples Collected	Analyses Collected: VOCs (EPA Method 8021)	SVOCs (EPA Method 8270)	Petroleum ID (NYSDOH 340-3 Method)	Petroleum Fingerprint (GC/FID Method)
Soil Boring							
SB -1 (SSB MW-11)	Soil	6-8	1	x	x	NR	NR
SB-2 (SSB MW-5)	Soil	4-6	1	x	x	NR	NR
Monitoring Wells							
SSB MW-5	Water	15-20	2	x	x	[1] x	NR
Con Ed MW-5	Water	13-18	1	x	x	NR	NR
Petroleum Product							
SSB MW-11	NAPL	[2] 13.50/14.41	2	NR	NR	x	x

Notes:

Sample analysis were performed in accordance with NYSDEC letter dated January 14, 2002.
VOCs - Volatile Organic Compounds
SVOCs - Semi-volatile Organic Compunds
NYSDOH - New York State Department of Health
GC/FID - Gas Chromatography/Flame Ionization Detector
NR - Not Requested
NAPL - Non-aqueous Phase Liquid
ft. bgs - feet below ground surface

[1] - Petroleum ID analysis was performed on groundwater samples collected during the sampling event of February 15, 2002.
[2] - Sample depth intervals correspond to the two samples of petroleum product collected on February 15 and March 12, 2002, respectively.
Equipment field blanks and trip blanks were collected for quality assurance/quality control purposes.

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SUBSURFACE INVESTIGATION

TABLE 2 - WEEKLY MONITORING/GROUNDWATER ELEVATIONS

Well ID	Date	Ground surface elevation	TOC elevation	Depth to water (feet bmp)	Depth to product (feet bmp)	Product Thickness (feet)	SWW elevation	OVM/Headspace (ppm)	Visual observations
SSB MW-5	2/13/2002 (well installation)	94.79	94.37	14.0	-	0.0	80.4	NA	Very light sheen
	2/15/2002 (well sampling)			14.8	-	0.0	79.6	20.3	Very light odor/very light sheen
	02/20/02			14.8	-	0.0	79.6	5.4	Very light odor/very light sheen
	02/26/02			NA [2]	NA [2]	NA [2]	NA [2]	NA [2]	NA [2]
	02/28/02			14.4	-	0.0	80.0	1.2	Very light odor/no sheen
	03/07/02			14.8	-	0.0	79.6	1.4	Very light odor/no sheen
	3/12/2002 (well sampling)			15.3	-	0.0	79.1	0.2	Very light odor/no sheen
SSB MW-11	2/13/2002 (well installation)	94.00	93.64	13.5	13.5	Sheen	80.1	NA	Sheen
	2/15/2002 (well sampling)			13.4	13.4	0.002	80.2	192	Odor/product
	02/20/02			13.4	13.4	0.002	80.2	100.4	Odor/product
	02/26/02			12.4	12.4	Trace	81.2	128.4	Odor/product
	02/28/02			NA [2]	NA [2]	NA [2]	NA [2]	NA [2]	NA [2]
	03/07/02			13.9	13.7	0.21	79.7	70.2	Odor/product
	3/12/2002 (well sampling)			14.4	14.1	0.34	79.2	102.0	Odor/product
ConEd MW-5	02/15/02	92.92	92.63	Not measured [1]	-	Not measured [1]	Not measured [1]	Not measured [1]	Not measured [1]
	02/20/02			13.5	-	0.0	79.1	Not measured	Odor
	02/26/02			13.4	-	0.0	79.2	Not measured	Odor
	02/28/02			NA [2]	NA [2]	NA [2]	NA [2]	NA [2]	NA [2]
	03/07/02			13.3	-	0.0	79.3	Not measured [3]	Not measured [3]
	3/12/2002 (well sampling)			13.3	-	0.0	79.3	14.8	Odor

Notes:

TOC - Top of casing
BMP - Depth to water from measuring point on casing
DTP - Depth to product
bgs - Below ground surface
NA - Not applicable
OVM - Organic vapor meter
ppm - Parts per million

GZA used a OVM calibrated to 100 ppm of isobutylene for headspace readings at each well.

[1] No measurements were collected from ConEdison MW-5 on February 15, 2002 because authorization to access this well had not yet been granted.

[2] GZA did not collect readings from SSB MW-5 on February 26 because the well had been buried and could not be located. Readings were collected on February 28 after the well was located/excavated.

[3] Depth to water measurements provided by ConEdison's consultants who were conducting field activities at the Site. No further information was provided.

Per NYSDEC request, GZA used a baller to evacuate product out of well SSB MW-11.
March 5, 2002: Minimal amount of product was evacuated.
March 12, 2002: approximately 280 milliliters of product was evacuated.

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SUBSURFACE INVESTIGATION

TABLE 3 - WELL PURGING/SAMPLING WATER QUALITY PARAMETERS
February 15, 2002 and March 12, 2202

Purge Volume	pH (Standard Units)	Temperature (F)	Conductivity (Umhos/cm)	Visual Observations
6.2 gallons	6.75	59.0	900	Slightly Turbid/light odor
12.3 gallons	6.25	59.5	850	Slightly Turbid/light sheen
Purge Volume	pH (Standard Units)	Temperature (F)	Conductivity (Umhos/cm)	Visual Observations
5.0 gallons	7.33	58.7	386	Turbid
10.0 gallons	7.48	60.6	396	Turbid
15.0 gallons	7.50	62.6	416	Slightly Turbid
20.0 gallons	7.52	63.8	422	Slightly Turbid
Purge Volume	pH (Standard Units)	Temperature (F)	Conductivity (Umhos/cm)	Visual Observations
9.0 gallons	7.53	55.0	338	Turbid/odor
18.0 gallons	7.36	54.6	332	Turbid/odor
31.6 gallons	7.28	54.7	318	Turbid/odor

Notes:
(F): Degrees Farenheit

(mhos/cm): micro ohms per centimeter

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SUBSURFACE INVESTIGATION

TABLE 4 - PETROLEUM PRODUCT ANALYTICAL RESULTS

Sample Identification	SSB MW-5	SSB MW-11	SSB MW-11	Field Blank	Trip Blank
Laboratory Identification	333052	208768-1	208768-1	333053	333054
Sample Date	2/15/02	2/15/02	3/12/02	2/15/02	2/15/02
Matrix	WATER	LNAPL	LNAPL	WATER	WATER
Dilution Factor	1.0	-	-	1.0	1.0
Units	µl/L	mg/kg	mg/kg	µl/L	µl/L
PRODUCT IDENTIFICATION (NYSDOH 310-13)					
Fuel Oil #1	0.1U	10,000U	96,000U	0.1U	NA
Fuel Oil #2	0.1U	10,000U	[illegible]	0.1U	NA
Fuel Oil #4	[illegible]	[illegible]	96,000U	0.1U	NA
Fuel Oil #6	0.1U	10,000U	96,000U	0.1U	NA
Gasoline	Not Present	Not Present	Not Present	Not Present	NA
Lube Oil	Not Present	Not Present	Not Present	Not Present	NA
Unknown Hydrocarbon	Not Present	Not Present	Not Present	Not Present	NA
FINGERPRINT ANALYSIS (GC/FID)	NA	Most closely resembles Diesel/#2 fuel oil	Most closely resembles Diesel/#2 fuel oil	NA	NA

Notes:

mg/kg -micrograms per kilograms
ul/L - microliters per liter
GC/FID - Gas chromatography/flame ionization detector
U -The compound was not detected at the indicated concentration.
NA - Not applicable
LNAPL: Light non-aqueous phase liquid

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SUBSURFACE INVESTIGATION

TABLE 5 - SOIL ANALYTICAL RESULTS

Sample Identificaiton	New York TAGM 4046 Soil Cleanup Criteria for Protection of Groundwater	MW-11	MW-11	MW-5	MW-5
Sample Interval (ft.)		6-8	6-8	4-6	4-6
Laboratory Identification		332652	332652	332653	332653
Sampling Date		2/12/02	2/12/02	2/13/02	2/13/02
Matrix		SOIL	SOIL	SOIL	SOIL
Dilution Factor		50.0	5.0	50.0	50.0
Units		µg/kg	µg/kg	µg/kg	µg/kg
VOLATILE ORGANIC COMPOUNDS (8021)					
Benzene		110 U	NA	100 U	NA
Toluene		110 U	NA	100 U	NA
Ethylbenzene		110 U	NA	100 U	NA
Isopropylbenzene		110 U	NA	100 U	NA
n-Propylbenzene		110 U	NA	100 U	NA
1,3,5-Trimethylbenzene		650	NA	2,600	NA
teri-Butylbenzene		110 U	NA	100 U	NA
1,2,4-Trimethylbenzene		480	NA	100 U	NA
sec-Butylbenzene		260	NA	590	NA
p-Isopropyltoluene		160	NA	650	NA
n-Butylbenzene		960	NA	100 U	NA
Naphthalene		1,000	NA	2,900	NA
MTBE		110 U	NA	100 U	NA
TotalXylenes		270	NA	100 U	NA
SEMIVOLATILE ORGANIC COMPOUNDS (8270)					
Naphthalene		NA	470 J	NA	300 J
Acenaphthene		NA	220 J	NA	480 J
Fluorene		NA	510 J	NA	980 J
Phenanthrene		NA	2,100	NA	1600 J
Anthracene		NA	270 J	NA	1700 U
Fluoranthene		NA	3,100	NA	280 J
Pyrene		NA	3,200	NA	820 J
Benzo(a)anthracene		NA		NA	190
Chrysene		NA		NA	160 J
Benzo(b)fluoranthene		NA		NA	150 J
Benzo(k)fluoranthene		NA	840	NA	79 J
Benzo(a)pyrene		NA		NA	
Indeno(1,2,3-cd)pyrene		NA	1,100	NA	80 J
Dibenz(a,h)anthracene		NA		NA	
Benzo(g,h,i)perylene		NA	1100 J	NA	68 J
Total Confident Conc.			16,290		190

Notes:

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than zero.

U - The compound was not detected at the indicated concentration.

NA - Not applicable

ND - Not detected.

MDL - Minimum detection level

Results exceed the TAGM Soil Cleanup Objective Criteria

SALOMON SMITH BARNEY, INC.
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SUBSURFACE INVESTIGATION

TABLE 6 - GROUNDWATER ANALYTICAL RESULTS

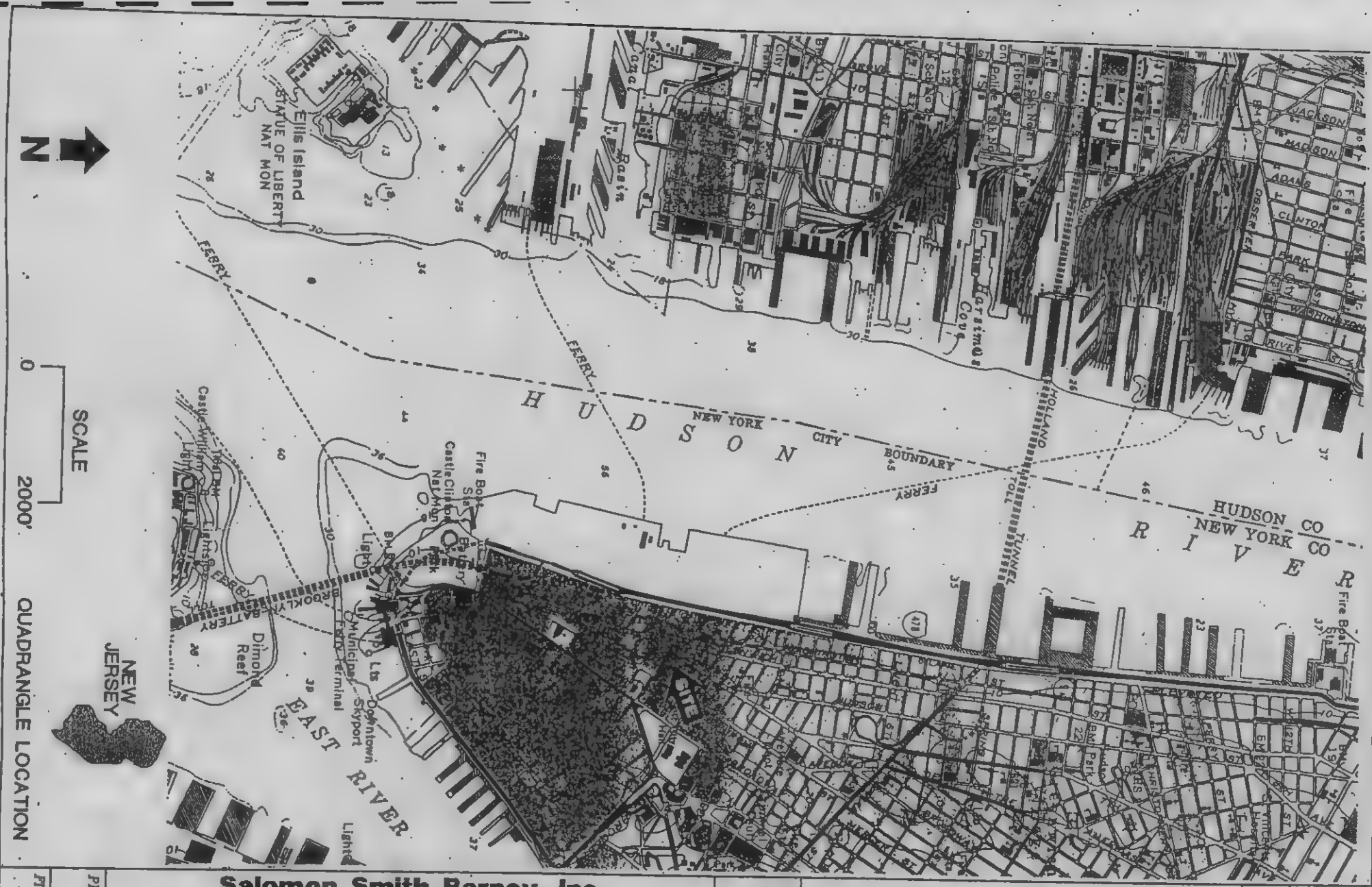
Sample Identification	SSB MW-5	SSB MW-5	CON ED MW-5	Field Blank	Field Blank	Trip Blank	Trip Blank
Laboratory Identification	333052	337191	337192	333053	337193	333054	337194
Sample Date	2/15/02	3/12/02	3/12/02	2/15/02	3/12/02	2/15/02	3/12/02
Matrix	WATER	WATER	WATER	WATER	WATER	WATER	WATER
Dilution Factor	1.0	1.0	5.0	1.0	1.0	1.0	1.0
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
VOLATILE ORGANIC COMPOUNDS (8021)							
Benzene	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	1.0 U	1.0 U	28	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	1.6	2.7	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	1.0 U	2.2	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
sec-Butylbenzene	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
p-Isopropyltoluene	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Naphthalene	2.4	6.7	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MTBE	24	12	130	1.0 U	1.0 U	1.0 U	1.0 U
TotalXylenes	1.0 U	1.0	7.6	1.0 U	1.0 U	1.0 U	1.0 U
SEMIVOLATILE ORGANICS COMPOUNDS (8270)							
Naphthalene	2.5 J	2.5 J	0.8 J	10 U	11U	NA	NA
Acenaphthene	0.7 J	0.8 J	0.4 J	10 U	11U	NA	NA
Fluorene	0.4 J	0.5 J	0.3 J	10 U	11U	NA	NA
Phenanthrene	0.7 J	10 U	0.5 J	10 U	11U	NA	NA
Anthracene	10 U	10 U	10 U	10 U	11U	NA	NA
Fluoranthene	10 U	10 U	10 U	10 U	11U	NA	NA
Pyrene	10 U	10 U	10 U	10 U	11U	NA	NA
Benz(a)anthracene	1.0 U	1.0 U	1.0 U	1.0 U	1.1U	NA	NA
Chrysene	10 U	10 U	10 U	10 U	11U	NA	NA
Benzo(b)fluoranthene	1.0 U	0.3 J	1.0 U	1.0 U	1.1U	NA	NA
Benzo(k)fluoranthene	1.0 U	0.3 J	1.0 U	1.0 U	1.1U	NA	NA
Benzo(a)pyrene	1.0 U	0.2 J	1.0 U	1.0 U	1.1U	NA	NA
Indeno(1,2,3-cd)pyrene	1.0 U	0.2 J	1.0 U	1.0 U	1.1U	NA	NA
Dibenz(a,h)anthracene	1.0 U	0.2 J	1.0 U	1.0 U	1.1U	NA	NA
Benzo(g,h,i)perylene	10 U	0.2 J	10 U	10 U	11U	NA	NA

Notes:

Water Class GA: Source of Drinking Water (groundwater)
ug/L = micrograms per liter
J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than zero.
U - The compound was not detected at the indicated concentration.
NR - Not regulated
NA - Not applicable

FIGURES

FIGURES



Salomon Smith Barney, Inc.
7 World Trade Center
Subsurface Investigation
New York, New York

Site Location Plan

REV. NO.	DESCRIPTION	BY	DATE

ACKNOWLEDGEMENT:
USGS 7.5 Minute Jersey City, NJ-NY Quadrangle 1967, Photorevised 1981.

PROJECT MGR: M.R. OPERATOR: E.M.
DESIGNED BY:
REVIEWED BY: DATE: 2/27/2002

GZA
GeoEnvironmental, Inc.

FIGURE NO. 1
PROJECT NO. 75369.00

March 15, 2002 9:32:21 a.m. | OpenSTRAM
Drawing: 75369001.dwg

APPENDIX A

APPENDIX A

NYSDEC CORRESPONDENCE

New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 2
Spill Prevention and Response
47-40 21ST Street, Long Island City, NY 11101-5407
Phone: (917) 217-8153• FAX: (718) 482-4954
Website: www.dec.state.ny.us

Erin M. Crotty
Commissioner

January 14, 2002

Cushman & Wakefield
Property Managers for Salomon Smith Barney
333 W34th Street
New York, NY 10001
Attn: Ed Cambell

Port Authority of New York and New Jersey
3 World Financial Center
New York, NY 10048
Attn: Carl Passeri

Re: 7 World Trade Center
Spill #: 01-07576
PBS #: 2-601553

Dear Sirs:

As a result of the events on September 11, 2001 and the subsequent collapse of 7 World Trade Center, the two 6,000 gallon underground storage tanks registered to Port Authority and Salomon Smith Barney at the above referenced location were crushed, releasing their contents to the subsurface.

As a result of this petroleum release, the Department is requiring that Salomon Smith Barney and Port Authority perform a subsurface investigation to determine the fate of this petroleum. Specifically, a minimum of three groundwater monitoring wells must be installed around the crushed tanks. The purpose of this investigation is to locate free phase product and assess soil/groundwater impacts in the area of 7 WTC, so that the oil can be recovered and its migration, if occurring, can be controlled.

Within 15 days of receipt of this letter, three monitoring wells must be installed in the vicinity of the crushed tanks. The hottest soil sample from each boring location, as identified through field screening, visual and olefactory evidence, must be submitted for EPA Methods 8021 and 8270 analyses. Once installed, the wells must be properly developed and surveyed to determine localized groundwater flow direction. The wells must then be monitored for depth to water and product thickness weekly for the first month. All non-product wells must be sampled quarterly for EPA Method 8021 and 8270 constituents. All product must be sampled for product ID via Method NYSDOH 310-13. The results of the subsurface investigation, complete with boring logs, a scaled site map, laboratory analyses, conclusions and recommendations for site remediation, must be submitted to the Department before February 15, 2002.

The Department's request for a subsurface investigation is reasonable and warranted under Article 12 of the Navigation Law (NL). Please consider the following brief summaries of specific sections of the NL:

i. Section 173 strictly prohibits the unpermitted discharge of petroleum into the surface or ground waters of the State of New York;

ii. Section 176 requires that any person who discharges petroleum to take immediate steps to contain, cleanup and remove such discharge;

iii. Section 192 provides for a civil penalty of not more than $25,000 a day for a violation of any provisions of the NL, with each day the violation persists constituting a separate offense;

iv. Section 176 authorizes the department to respond to and clean up discharges of petroleum and to retain contractors to assist in spill response activities;

v. Section 181 holds any person who has discharged petroleum to be directly liable, without regard to fault, for all cleanup and removal costs and all direct and indirect damages, no matter by whom sustained. If the state takes over the investigation and remediation of a spill then the spiller will be billed for all actual costs incurred plus interest and penalties

Based on the results of this investigation, additional investigation may be warranted and required by the Department. The Department must be notified prior to the scheduled start date. If you have any questions please contact me at (917) 217-8153.

Sincerely,

Timothy DeMeo

Timothy DeMeo
Environmental Engineer
Bureau of Spill Prevention and Response

NYSDEC SPILL REPORT FORM

DEC REGION# 2 (Long Island City) SPILL NUMBER 0107576
SPILL NAME: 7 WORLD TRADE CENTER DEC LEAD: ACAMPORA/AUSTIN
CALLER'S NAME: EMILY NIEVES NOTIFIER'S NAME: ECO DORRET
CALLER'S AGENCY: DEC REGION 2 NOTIFIER'S AGENCY: DEC/OEMWTC
CALLER'S PHONE: (718) 482-4057 EXT. NOTIFIER'S PHONE: (212) 756-3066 EXT.

SPILL DATE: 10/24/2001 TIME: 10:00
SPILL RECEIVED DATE: 10/24/2001 TIME: 10:40 RECEIVED BY CID #: 204

Material Spilled	Mat. Class	Am't Spilled	Units	Am't Recovered
DIESEL	(Pet-Haz-Other-Unk.)	12,000	(Gal) - Lbs	0
	Pet-Haz-Other-Unk.		Gal - Lbs	
	Pet-Haz-Other-Unk.		Gal - Lbs	
	Pet-Haz-Other-Unk.		Gal - Lbs	

SPILL LOCATION

PLACE: 7 WORLD TRADE CENTER
STREET: 7 WORLD TRADE CENTER
C/V: MANHATTEN CO: NEW YORK
CONTACT:
PHONE: ( ) - EXT.

POTENTIAL SPILLER

NAME: PORT AUTHORITY/
STREET: SALOMON SMITH BARNEY
CITY: MANHATTEN
STATE: NY ZIP:
CONTACT: JOHN V. GLASS
PHONE: (212) 783-6252 EXT.

SPILL CAUSE

Human Error | Tank Test Failure | Tank Failure
Traffic Accident | Housekeeping | Tank Overfill
Equipment Failure | Deliberate | Other
Vandalism | Abandoned Drums | (Unknown)

SPILL SOURCE

Gas Station | Private Dwelling | Non-Maj Facility
Passenger Vehicle | Vessel | Comm/Indust
Comm. Vehicle | Railroad Car | (Non-Comm/Instit)
Tank Truck | Major Facility | Unknown

RESOURCE AFFECTED

(On Land) | Groundwater | Air
In Sewer | Surface Water
WATERBODY:

SPILL REPORTED BY

Responsible Party | Tank Tester | Local Agency
Affected Persons | (DEC) | Federal Gov't
Police Department | Citizen | Other
Fire Department | Health Dept.

CALLER REMARKS: DEC accessed underground storage tank manholes which contained a thin mixture of diesel and transformer oil, then water, then soil.

PBS Number	Tank Number	Tank Size	Test Method	Leak Rate
2-601553				

PRIMARY CONTACT CALLED DATE: TIME: REACHED DATE: TIME:
SECONDARY CONT. CALLED DATE: TIME: FAXED BY CID#:

PIN#	T & A	Cost Center	ISR to Central Office
Cleanup Ceased	Meets St'ds NO	Last Inspection	Penalty NO
RP-CUI	ENF-INIT	INVES-COM	CAP
UST Trust Eligible NO	Site: A B (C) D E	Resp. Party 1 2 3 (4) 5 6	Reg Close Date
Created on 10/24/2001	Last Updated on 01/22/2002	Is Updated? YES	EDO / DATA INPUT [ ]

Date Printed: 01/22/2002

Spill Number: 0107576 Spill Name: 7 WORLD TRADE CENTER Printed on: 01/22/2002

DEC REMARKS

(2) 6000 GALLON UNDERGROUND STORAGE TANKS CRUSHED BY WTC COLLAPSE ON 9/11/01.
BS#2-601553

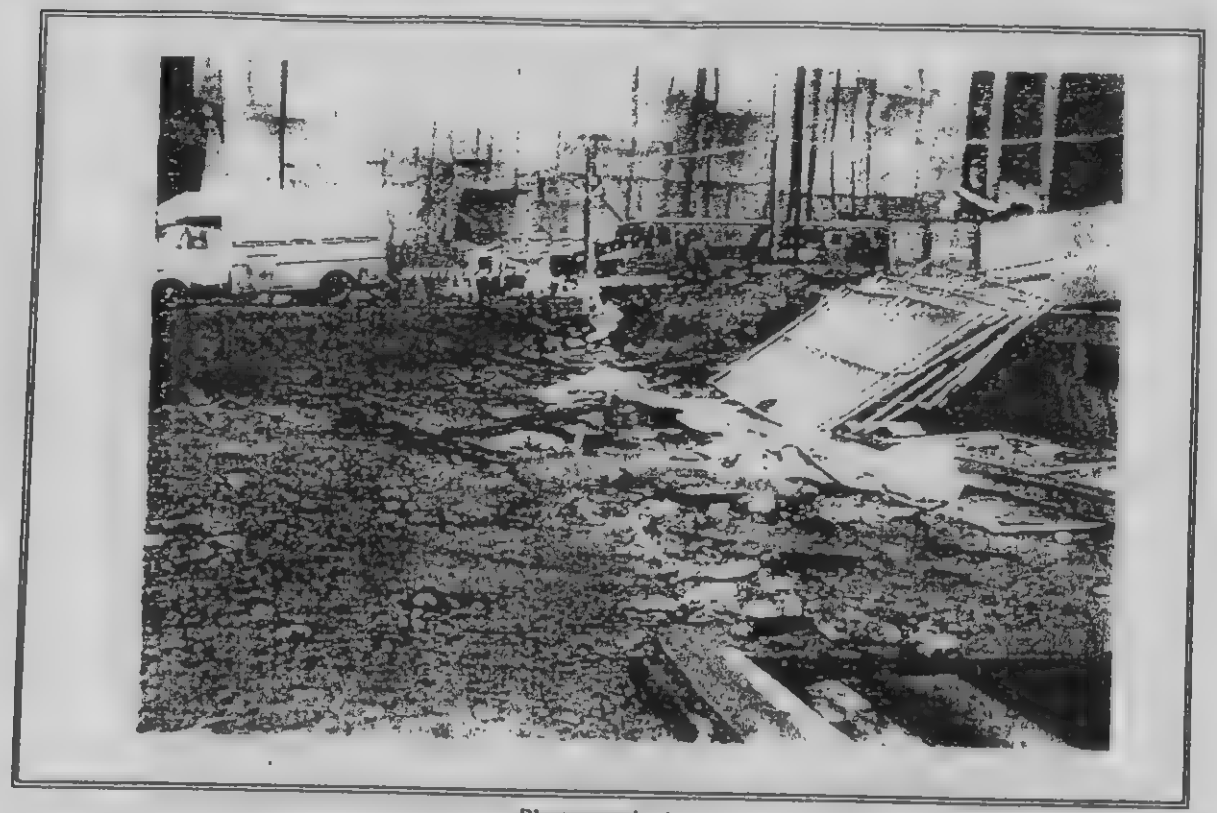
APPENDIX B

APPENDIX B

PHOTOGRAPHS

INITIAL SITE VISIT

- SALOMON SMITH BARNEY INC., 7 WORLD TRADE CENTER, NEW YORK, NY -
SUBSURFACE INVESTIGATION
Preliminary Site Observations



Photograph A:
Photo A: Looking west at proposed well location between Silverstein and SSB USTs

Photograph B:
Photo B: Looking east at proposed well location

Job No	Photos Taken By:	Reviewed By:	GZA
75369.00	M. Ramirez, 2/1/02	F. Schultz	GeoEnvironmental, Inc.

CLEARING MANHOLES/ACCESSING CONTENTS OF USTS

- SALOMON SMITH BARNEY INC., 7 WORLD TRADE CENTER, NEW YORK, NY -
SUBSURFACE INVESTIGATION
Clearing Manholes/Accessing Contents of USTs

Photograph 1:
Looking east at Clean Venture removing construction debris from UST manholes using a Guzzler.

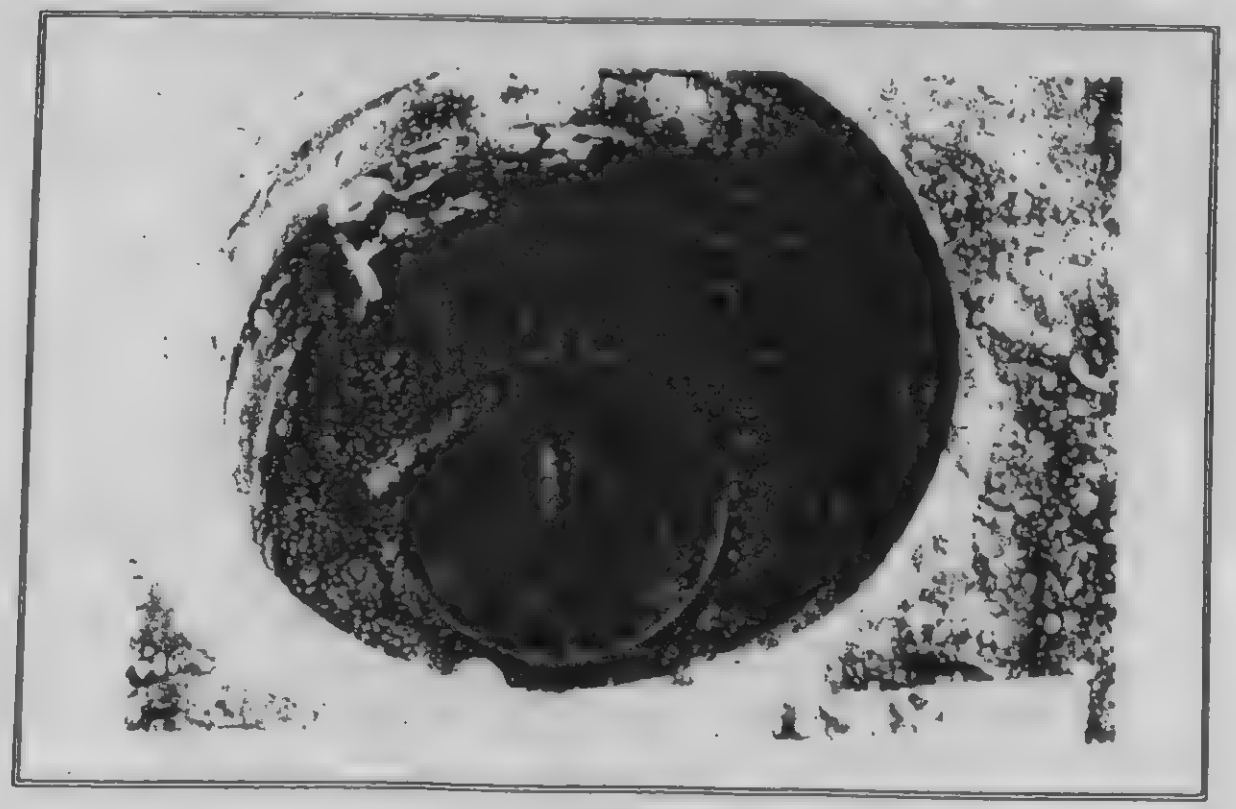
Photograph 2:
Close up of technicians clearing debris from UST manholes

Job No.	Photos Taken By:	Reviewed By:	GZA
75369.00	M. Ramirez, 2.11.02	F. Schultz	GeoEnvironmental, Inc.

Photograph 3: The manhole rims and covers were found broken and taken out in several pieces

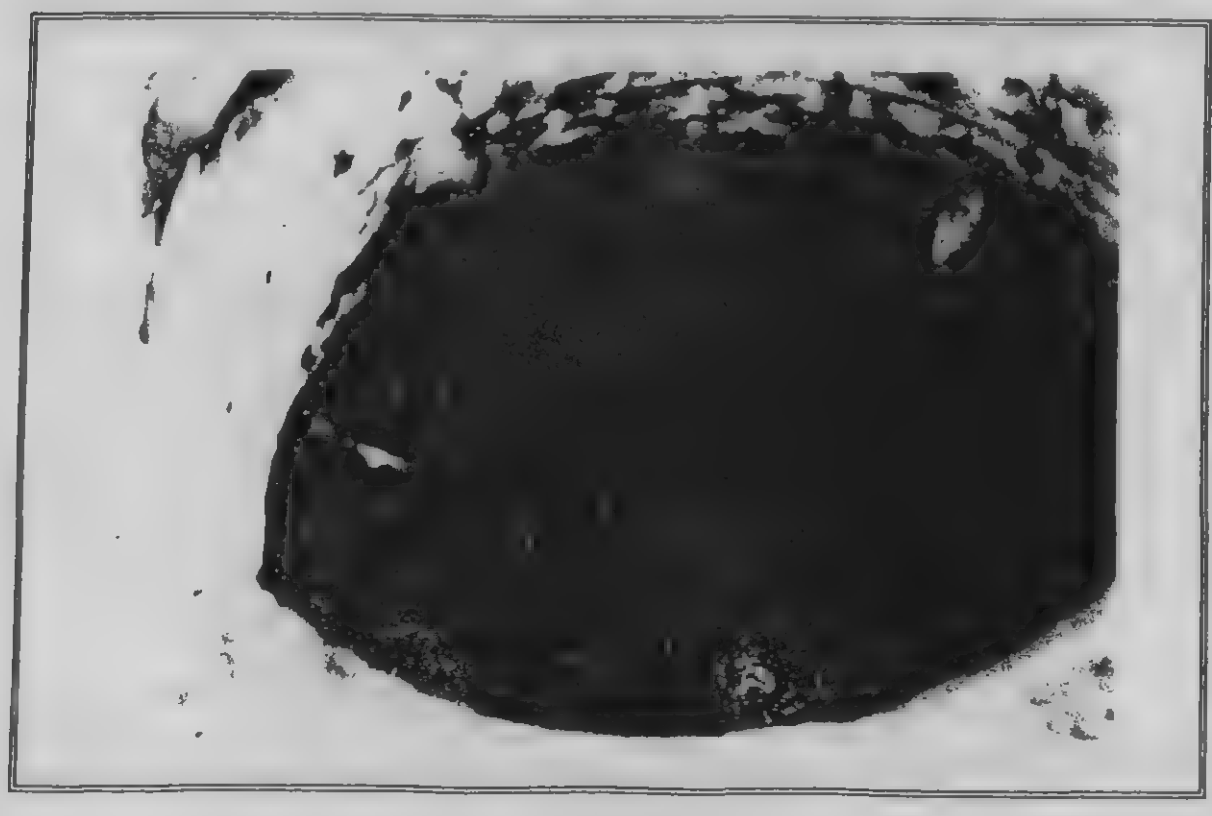
Photograph 4: Looking inside UST manhole after most of the construction debris present has been removed.

Photograph 5:
Debris removed from manholes consisted of pieces of concrete, metal, rebar and brick



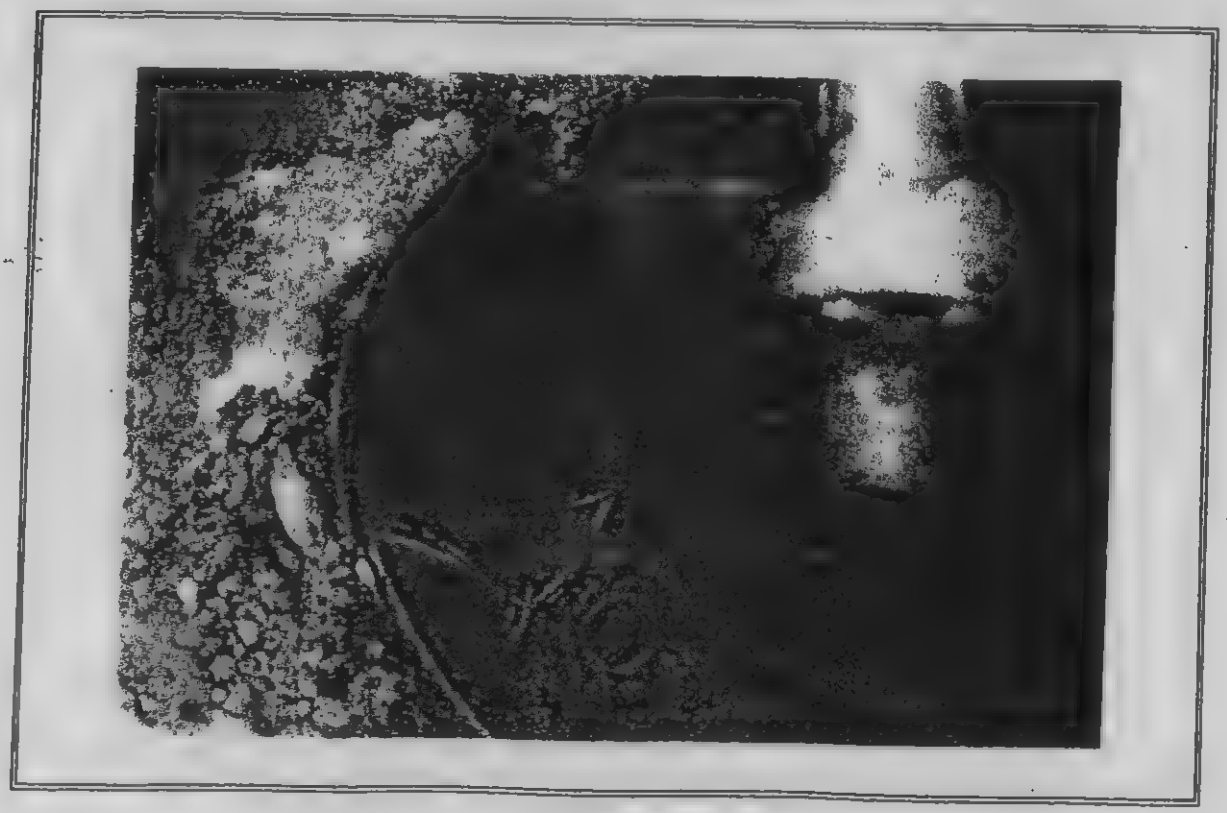
Photograph 6:
Looking down into northern manhole of eastern tank. Concrete and metal rim were encountered at approximately 2 feet below ground surface

Photograph 7:
Looking down (approximately 3 feet below ground surface) at gravel pack covering the USTs

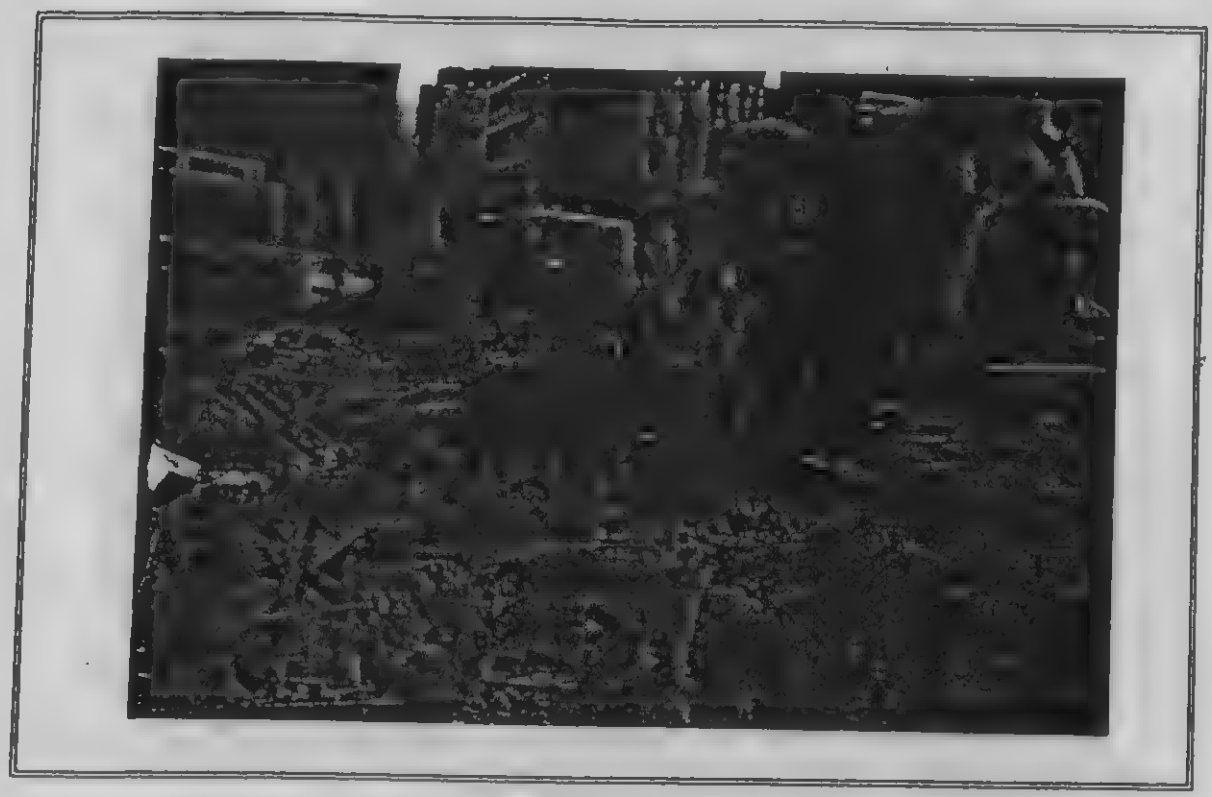


Photograph 8:
Top of UST covers were encountered at approximately 4 feet below ground surface

Photograph 9:
Western tank as seen when exposed. Contents were accessed through the fill port with a measuring stick



Photograph 10:
Close up of western tank. The 3-inch diameter fill port is clearly visible



Photograph 11:
Clean Venture cleaning up at the end of field activities
Manholes were covered with wooden boards and secured with rocks

INSTALLATION OF MONITORING WELL SSB MW-11

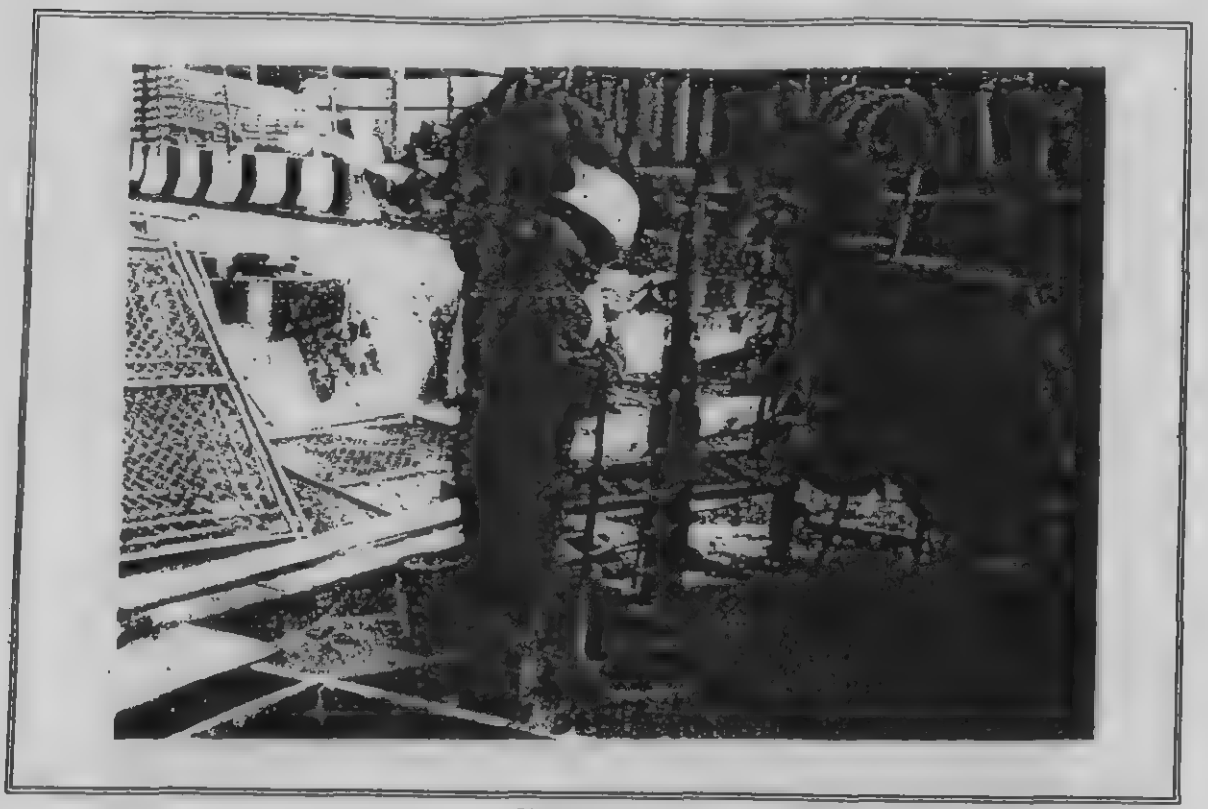
- SALOMON SMITH BARNEY INC., 7 WORLD TRADE CENTER, NEW YORK, NY -
SUBSURFACE INVESTIGATION
Installation of Monitoring Well SSB MW-11

Photograph 1:
Looking southeast at Craig Drilling ready to commence drilling activities at SSB MW-11

Photograph 2:
Craig Drilling encountered concrete from ground surface to approximately 2-feet below grade at SSB MW-11

Job No. 75369.00	Photos Taken By: M. Ramirez, 2-12-02	Reviewed By: F. Schultz	GZA GeoEnvironmental, Inc.

- SALOMON SMITH BARNEY INC., 7 WORLD TRADE CENTER, NEW YORK, NY -
SUBSURFACE INVESTIGATION
Installation of Monitoring Well SSB MW-11

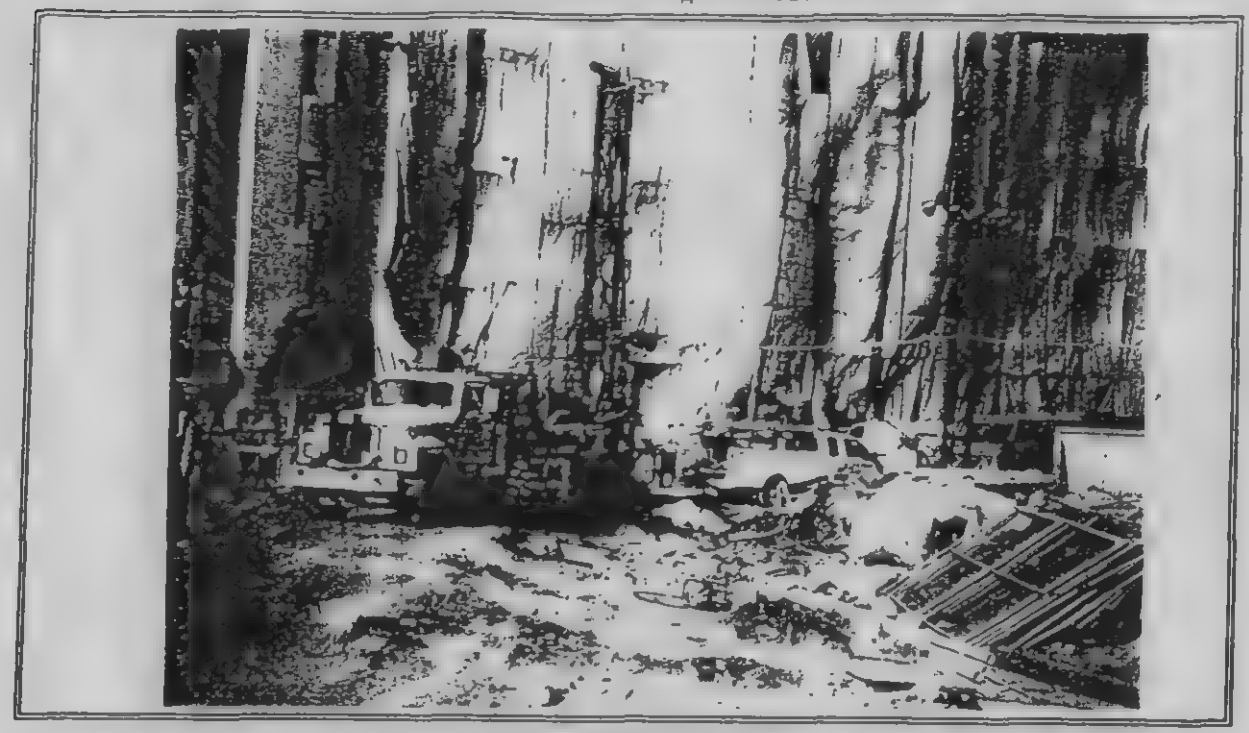


Photograph 3:
A hollow stem auger was used to drill SSB MW-11

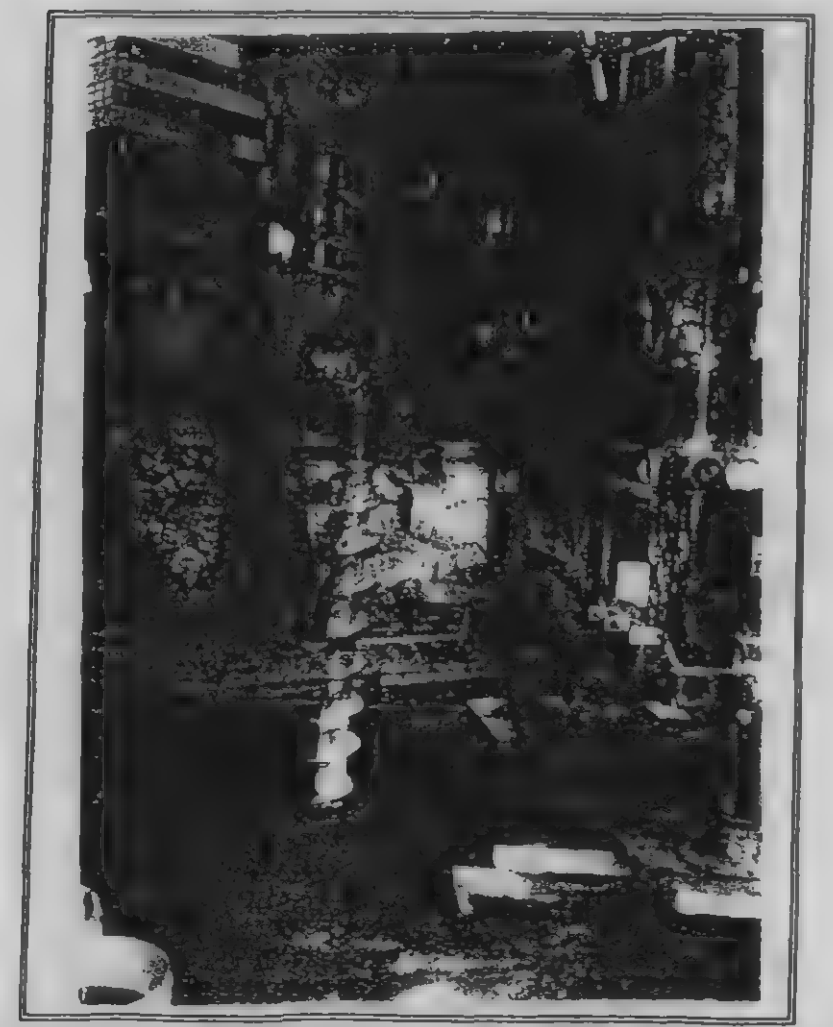
Photograph 4:
SSB-MW11 was completed with a flush-mount metal cover. Soil cuttings were spread on Site since no odors-PID readings were detected

Job No	Photos Taken By:	Reviewed By:	GZA
75369.00	M. Ramirez, 2.12.02	F. Schultz	GeoEnvironmental, Inc.

INSTALLATION OF MONITORING WELL SSB MW-5

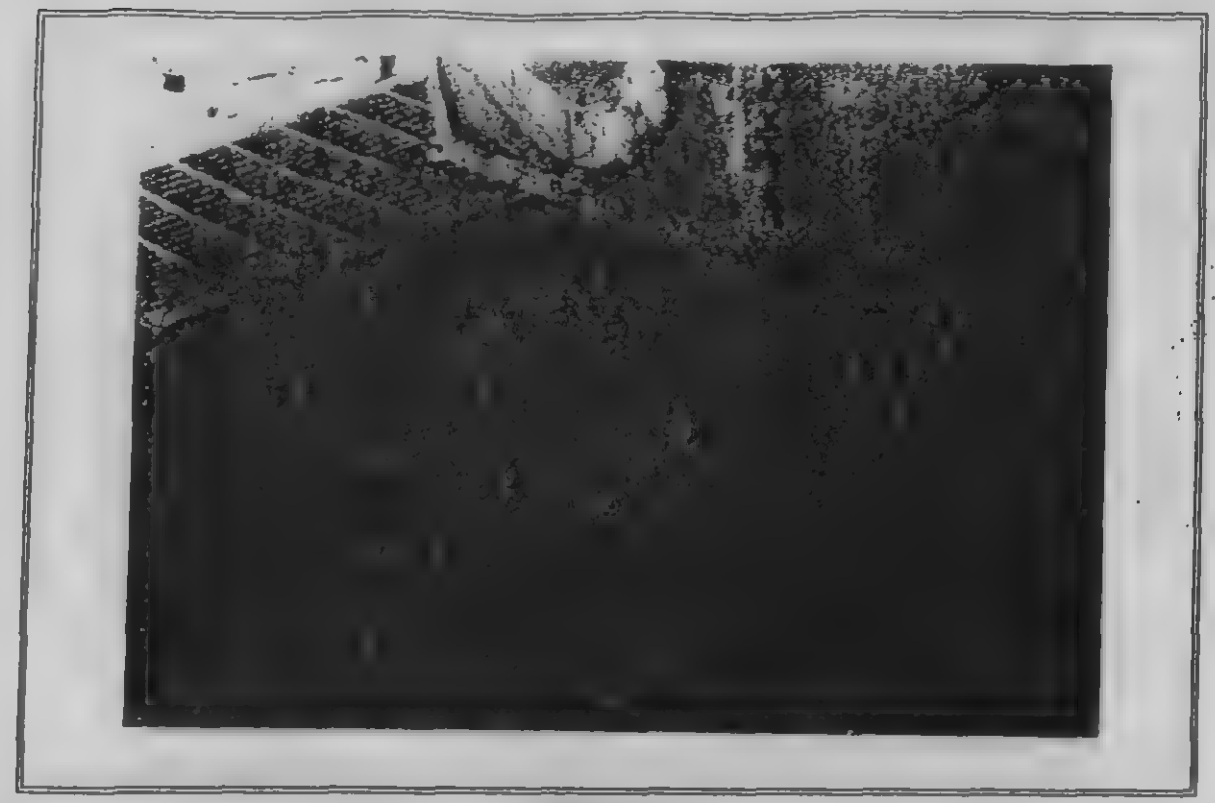


Photograph 1:
Looking east at Craig Drilling during installation of SSB MW-5. Verizon building is visible in the background.

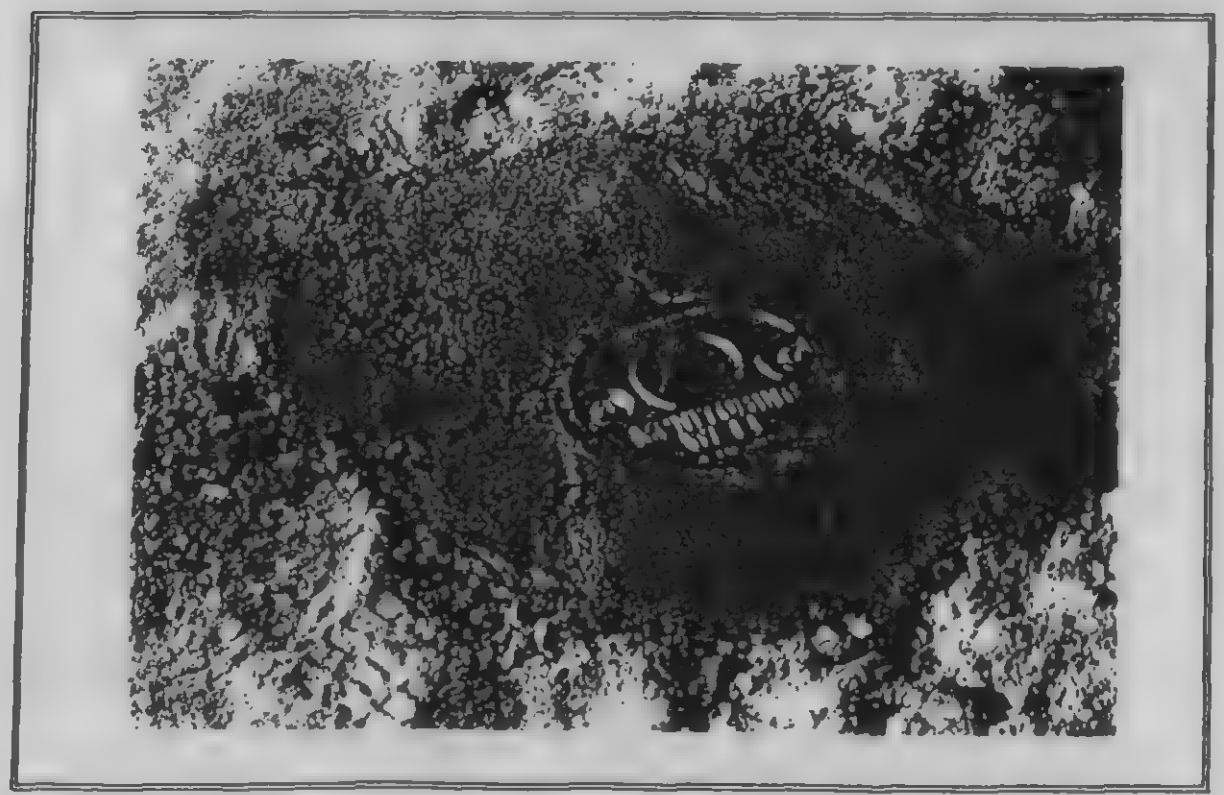


Photograph 2:
Craig Drilling used a hollow stem auger to drill SSB MW-5

Job No	Photos Taken By:	Reviewed By:	GZA
75369	M. Ramirez, 2-13-02	F. Schultz	GeoEnvironmental, Inc



Photograph 3:
The annular space of SSB MW-5 was re-inforced with rebar to provide additional support
This well was installed in the middle of a high-traffic access road.



Photograph 4:
SSB MW-5 was completed with a flush-mount metal cover

Job No.	Photos Taken By:	Reviewed By:	GZA
75369.00	M. Ramirez, 2/13/02	F. Schultz	GeoEnvironmental, Inc

DEVELOPING SSB MW-5 AND SSB MW-11

- SALOMON SMITH BARNEY INC., 7 WORLD TRADE CENTER, NEW YORK, NY
SUBSURFACE INVESTIGATION
Developing SSB MW-5 and SSB MW-11

Photograph 1:
Looking northeast at developing activities for SSB MW-11. No sheens and or odors were observed. Development water was purged to the ground

Photograph 2:
Development water from SSB MW-5 did not contain sheens. However, a light odor was detected

Job No.	Photos Taken By	Reviewed By:	GZA
75369.00	M. Ramirez 2.13.02	F. Schultz	GeoEnvironmental, Inc

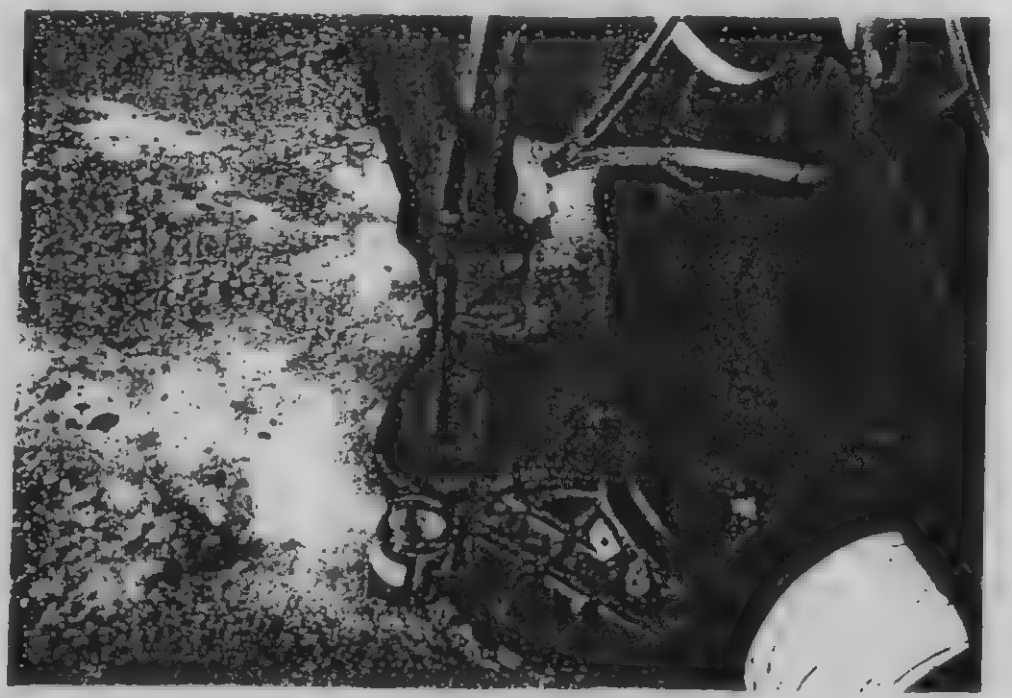
- SALOMON SMITH BARNEY INC., 7 WORLD TRADE CENTER, NEW YORK, NY -
SUBSURFACE INVESTIGAITON
Developing SSB MW-5 and SSB MW-11

Photograph 3:
Development water from SSB MW-5 was containerized in a 55-gallon steel drum and staged on Site for disposal.

Job No.	Photos Taken By:	Reviewed By:	GZA
75369.00	M. Ramirez, 2/13/02	F. Schultz	GeoEnvironmental, Inc.

SAMPLING MONITORING WELL SSB MW-11

- SALOMON SMITH BARNEY INC., 7 WORLD TRADE CENTER, NEW YORK, NY -
SUBSURFACE INVESTIGATION
Sampling Monitoring Well SSB MW-11



Photograph 1:
An oil/water interface meter was used to measure product thickness in SSB MW-11

Photograph 2:
A sample of the product present in SSB MW-11 was collected for Petroleum ID analysis

Job No	Photos Taken By	Reviewed By	GZA
75369.00	M. Ramirez, 2.15.02	F. Schultz	GeoEnvironmental, Inc

Photograph 3:
Purging and sampling equipment was decontaminated prior and before use at each well

Job No	Photos Taken By:	Reviewed By:	GZA
75369.00	M. Ramirez, 2/15/02	F. Schultz	GeoEnvironmental, Inc

APPENDIX C

SOIL BORING LOGS

GZA GEOENVIRONMENTAL, INC.

BORING CO.	CRAIG Test Boring Co., Inc.	BORING LOCATION	Approximately 16 feet to the east of eastern tank
DRILLER	Stefan Sums	GROUND SURFACE ELEV.	na
GZA ENGINEER	Maria E. Ramirez	DATUM	na
		DATE START 2/12/02	DATE END 2/12/02

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 IN

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 LB HAMMER FALLING 24 IN

2/12/02	3:00 pm	13.0	25.0	3 hours

0.0						Concrete reinforced with rebar	CONCRETE	CAP	
		no sample							
2.0									
		no sample							
4.0									
			24/20	4-8	4	Top 8": Fill- Concrete pieces, brick gravel			
		1			5	Bottom 12": Yellow/Brown, coarse to medium Sand			2.1 ppm
					8	(No odor, No sheen)			to
8.0					10		FILL		14.0 ppm
			24/14	6-8	12	Top 4": Fill- Concrete pieces, brick gravel			
		2 *			9	Bottom 10": Reddish brown, fine to medium Sand with brick			* 4.0 ppm
					8	(No odor, No sheen)			to
8.0					6				* 18.1 ppm
			24/14	8-10	10	Top 4": Fill- Coarse Sand and fine Gravel with pieces of concrete			
		3			7	Bottom 12": Dark brown Silty Sand with Brick and Wood			0.4 ppm
					6	(No Odor, No Sheen)			to
10.0					5				2.8 ppm
			24/14	10-12	5	Top 1": Lighter Brown/Yellow medium Sand			
		4			7	Bottom 13": Light brown Silty Sand with little brick and concrete	Sand		0.2 ppm
					8	(No odor, No sheen)			to
12.0					6				0.4 ppm
			24/18	12-14	22	Dark brown fine Sand with Silt, some brick			
		5			7	(No odor, No sheen)			0.4 ppm
					4				to
14.0					4	Tip of spoon moist ~ 14"	Water Table		0.8 ppm

REMARKS:

1. A photo ionization detector (PID) was used to monitor for the presence of volatile organic compounds (VOCs) in the soils.
   Readings in parts per million (ppm). PID (MiniRae model 2000) was calibrated to 100 ppm of Isobutylene prior to collecting readings.
2. * Samples with highest PID readings were submitted to the laboratory for (VOC analysis, EPA Method 8021) and (SVOC, EPA Method 8270)
3. A six-inch diameter Hollow Stem Auger was used to advance borehole.
4. Groundwater was encountered between 14-15 feet below ground surface (bgs).
5. After 14-16 foot- interval spoon was collected, Craig Drilling proceeded to set the monitoring well.
6. Monitoring well set at 25 feet bgs using 14 feet of 4-inch diameter PVC well screen and 11 feet of 4-inch diameter PVC riser pipe.

NOTES:

WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED; FLUCTUATIONS OF GROUNDWATER TABLE MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

			24/20	14-46	3	Tip of spoon saturated. Wood.		0.2 ppm
		8			8	Dark brown medium Sand with little Silt	Sand	to
					4	Top and middle of spoon wet		0.8 ppm
16.0					12	(No Odor, No Sheen)		
18.0								
20.0								
22.0								
24.0								
						End of Boring 25' bgs		
26.0								
28.0								
30.0								

REMARKS:

Soil cuttings at 23-25 feet bgs: reddish silty Clay

NOTES:

WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED; FLUCTUATIONS OF GROUNDWATER TABLE MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

GZA GEOENVIRONMENTAL INC. | REPORT OF BORING NO. SB-2/SSB/MW-5

BORING CO.	CRAIG Test Boring Co., Inc.	BORING LOCATION	Approximately 18 feet to the west of western tank
DRILLER	Stefan Burns	GROUND SURFACE ELEV.	na
		DATUM	na
GZA ENGINEER	Maria E. Ramirez	DATE START	2/13/02
		DATE END	2/13/02

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 IN

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 LB HAMMER FALLING 24 IN

2/13/02	2:45 pm	13.00	25 ft	3 hours

0.0						Brown, medium to fine Sand with Gravel and Brick	FILL	
		no sample						
2.0						Grinding augers at 2 feet	CONCRETE	
		no sample						
4.0		1 *	24/12	4-6	8	Yellow/ brown, coarse to medium Sand	FILL	40 ppm *
					7	with Gravel, Brick and Concrete		to
					8	(Slight odor, No sheen)		45.8 ppm *
6.0					5			
		2	24/12	6-8	5	Yellow/ brown, coarse to medium Sand		2.4 ppm
					5	with Gravel, Brick and Concrete		to
					4	(Slight odor, No sheen)		3.0 ppm
8.0					2			
		3	24/8	8-10	4	Reddish brown, medium to fine Sand, some	FILL	7.1 ppm
					3	Gravel, little brick, Some greenish yellow Sand		to
					4	(Very slight odor, No sheen)		10.3 ppm
10.0					7			
		4	24/12	10-12	5	Reddish brown, coarse to medium Sand, little Gravel		0.3 ppm
					6	(No odor, No sheen)		to
					6			1.8 ppm
12.0					6			
		5	24/22	12-14	6	Top 6" Gray Clay (moist) light odor		0.2 ppm
					3	6"-12": Brown gray Clayey Silt. No odor		to
					3	12"-18" Red brown fine Sand w/ black Sand (moist)		0.7 ppm
14.0					8	18"-22": Brown coarse to medium Sand with some Gravel	Water table	

CAP

CAP

REMARKS:

1. A photo ionization detector (PID) was used to monitor for the presence of volatile organic compounds (VOCs) in the soils. Readings in parts per million (ppm). PID (MiniRae model 2000) was calibrated to 100 ppm of isobutylene prior to collecting readings.
2. * Samples with highest PID readings were submitted to the laboratory for (VOC analysis, EPA Method 8021) and (SVOC, EPA Method 8270)
3. A six-inch diameter Hollow Stem Auger was used to advance borehole.
4. Groundwater was encountered between 14-15 feet below ground surface (bgs).
5. After 16-18 foot- interval spoon was collected, Craig Drilling proceeded to set the monitoring well.
6. Monitoring well set at 25 feet bgs using 14 feet of 4-inch diameter PVC well screen and 11 feet of 4-inch diameter PVC riser pipe.

NOTES:

WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED; FLUCTUATIONS OF GROUNDWATER TABLE MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

CRAIG ENVIRONMENTAL INC

			6/6	14-14'8"	8	Brown medium Sand (wet)		0.1 ppm
		6			100/2	Concrete in tip of spoon	FILL	to
								0.8 ppm
16.0								
			24/22	16-18	7	Brown , coarse to medium Sand with fine Gravel		0.1 ppm
		7			8	(Saturated- no odor, no sheen)		to
					7			6.7 ppm
18.0					3			
20.0								
22.0								
24.0								
						End of Boring 25' bgs		
26.0								
28.0								
30.0								

REMARKS:

Soil cuttings at 23-25 feet bgs: black silty Clay

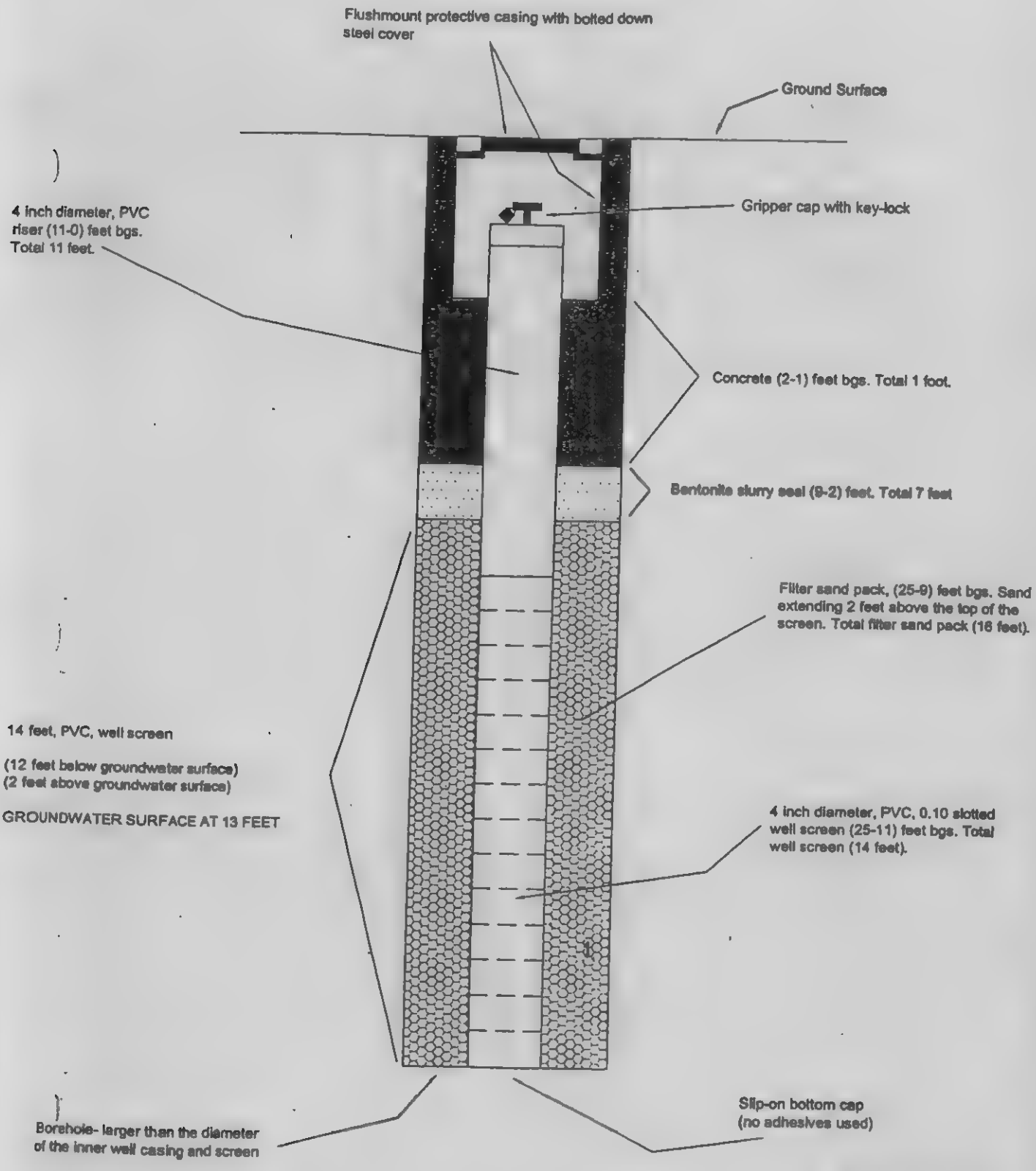
NOTES:

WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED; FLUCTUATIONS OF GROUNDWATER TABLE MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

APPENDIX D

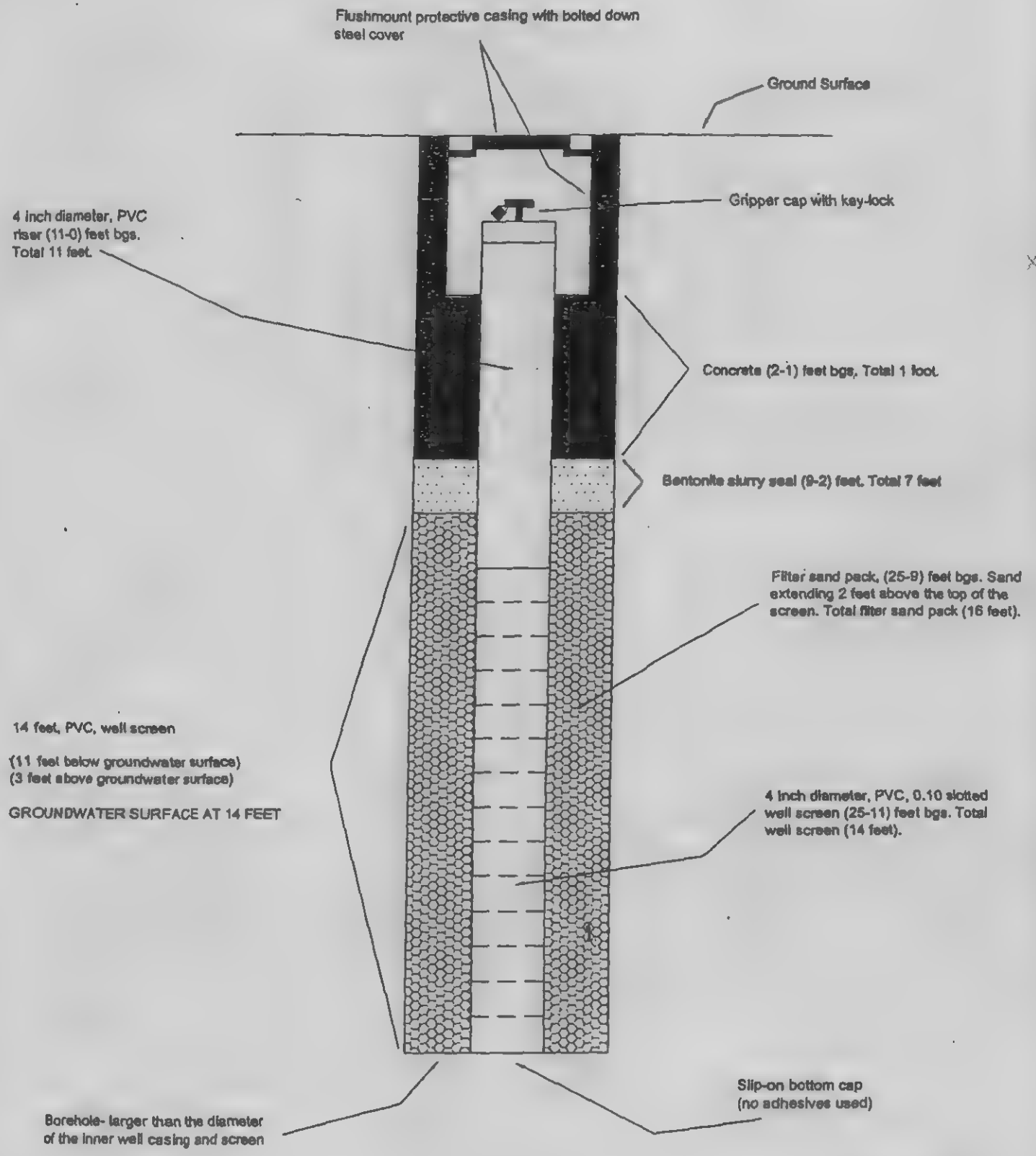
WELL CONSTRUCTION DETAIL DIAGRAMS

TOTAL DEPTH OF WELL = 25 FEET



ZA Environmental, Inc.	**WELL CONSTRUCTION DETAIL**	Well Construction Date: 02/12/02	PROJECT No.: 75369
	Solomon Smith Barney, Inc. 7 World Trade Center, New York, NY	NOT TO SCALE	SSB MW -5

TOTAL DEPTH OF WELL = 25 FEET BGS



BGS = Below Ground Surface

GZA GeoEnvironmental, Inc.	WELL CONSTRUCTION DETAIL	Well Construction Date: 02/12/02	PROJECT No.: 75369
	Solomon Smith Barney, Inc. 7 World Trade Center, New York, NY	NOT TO SCALE	SSB MW -11

APPENDIX E

APPENDIX E

ANALYTICAL LABORATORY REPORTS

02/27/2002

GZA GeoEnvironmental
65 Willowbrook Blvd
Wayne, NJ 07470

Attention: Ms. Frances Schultz

STL Edison
777 New Durham Road
Edison, NJ 08817

Tel: 732-549-3900
Fax: 732-549-3679
www.stl-inc.com

Laboratory Results
Job No. T642 - SSB/NYC

Dear Ms. Schultz:

Enclosed are the results you requested for the following sample(s) received at our laboratory on February 14, 2002.

Lab No.	Client ID	Analysis Required
332652	MW-11_6-8	8021 Stars List
		8270 Stars List
332653	MW-5_4-6	8021 Stars List
		8270 Stars List

An invoice for our services is also enclosed. If you have any questions please contact your Project Manager, Randy Wolfe, at (732) 549-3900.

Very Truly Yours,

Michael J. Urban
Laboratory Director

SEVERN TRENT SERVICES

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Lab/Client ID Cross Referrence 2
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SEVERN TRENT SERVICES

Sample Data Summary Package

SDG: T642

Site: SSB/NYC

STL Edison is a part of Severn Trent Laboratories, Inc.

SEVERN TRENT SERVICES

Lab/Client ID Cross Referrence

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND ANALYTICAL REQUIREMENT SUMMARY

Customer Sample Code	Laboratory Sample Code	Analytical Requirements						
		*VOA GC/MS Method	*BNA GC/MS Method	*VOA GC Method	*BNA GC Method	*PEST PCBs Method	*Metals Method	*Other
MW-11_6-8	332652		❖	❖				
MW-5_4-6	332653		❖	❖				

T642

Sample Preparation and Analysis Summary

T642

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
GC VOLATILES
ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
332652	SOLID	2/12/02	2/14/02		2/18/02
332652MS	SOLID	2/12/02	2/14/02		2/18/02
332652SD	SOLID	2/12/02	2/14/02		2/18/02
332653	SOLID	2/13/02	2/14/02		2/21/02

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
SEMIVOLATILE (BNA)
ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
332652	SOLID	2/12/02	2/14/02	2/16/02	2/21/02
332653	SOLID	2/13/02	2/14/02	2/16/02	2/21/02

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
SEMIVOLATILE (BNA)
ANALYSES

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Auxiliary Cleanup	Dil/Conc Factor
332652	SOLID	1989 NYSDEC ASP - Revision 10/95	Liquid-Liquid		5.00
332653	SOLID	1989 NYSDEC ASP - Revision 10/95	Liquid-Liquid		5.00

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSES

Laboratory Sample ID	Matrix	Parameters	Date Rec'd at Lab	Date Analyzed
332652	SOLID	% SOLIDS	2/14/02	2/15/02
332653	SOLID	% SOLIDS	2/14/02	2/15/02

SEVERN TRENT SERVICES

Analytical Results Summary

Client ID: MW-11_6-8
Site: SSB/NYC

Lab Sample No: 332652
Lab Job No: T642

Date Sampled: 02/12/02
Date Received: 02/14/02
Date Analyzed: 02/18/02
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: gpid2094.d

Matrix: SOIL
Level: MED
Sample Weight: 5 g
Extract Final Volume: 10.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 11.4

VOLATILE ORGANICS - GC/PID
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Benzene	ND	110
Toluene	ND	110
Ethylbenzene	ND	110
Isopropylbenzene	ND	110
n-Propylbenzene	ND	110
1,3,5-Trimethylbenzene	650	110
tert-Butylbenzene	ND	110
1,2,4-Trimethylbenzene	480	110
sec-Butylbenzene	260	110
p-Isopropyltoluene	160	110
n-Butylbenzene	960	110
Naphthalene	1000	110
MTBE	ND	110
Total Xylenes	270	110

Client ID: MW-5_4-6
Site: SSB/NYC

Lab Sample No: 332653
Lab Job No: T642

Date Sampled: 02/13/02
Date Received: 02/14/02
Date Analyzed: 02/21/02
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: gpid2116.d

Matrix: SOIL
Level: MED
Sample Weight: 5 g
Extract Final Volume: 10.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 3.8

VOLATILE ORGANICS - GC/PID
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Benzene	ND	100
Toluene	ND	100
Ethylbenzene	ND	100
Isopropylbenzene	ND	100
n-Propylbenzene	ND	100
1,3,5-Trimethylbenzene	2600	100
tert-Butylbenzene	ND	100
1,2,4-Trimethylbenzene	ND	100
sec-Butylbenzene	590	100
p-Isopropyltoluene	650	100
n-Butylbenzene	ND	100
Naphthalene	2900	100
MTBE	ND	100
Total Xylenes	ND	100

1

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SEVERN TRENT SERVICES

Client ID: MW-5_4-6
Site: SSB/NYC

Lab Sample No: 332653
Lab Job No: T642

Date Sampled: 02/13/02
Date Received: 02/14/02
Date Extracted: 02/16/02
Date Analyzed: 02/21/02
GC Column: DB-5
Instrument ID: BNAMS8.i
Lab File ID: aa8341.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 5.0
% Moisture: 4

PAH - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)		Quantitation Limit Units: ug/kg
Naphthalene	300	J	1700
Acenaphthene	480	J	1700
Fluorene	980	J	1700
Phenanthrene	1600	J	1700
Anthracene	ND		1700
Fluoranthene	280	J	1700
Pyrene	820	J	1700
Benzo(a)anthracene	190		170
Chrysene	160	J	1700
Benzo(b)fluoranthene	150	J	170
Benzo(k)fluoranthene	79	J	170
Benzo(a)pyrene	130	J	170
Indeno(1,2,3-cd)pyrene	80	J	170
Dibenz(a,h)anthracene	ND		170
Benzo(g,h,i)perylene	68	J	1700

STL Edison is a part of Severn Trent Laboratories, Inc.

General Information

Chain of Custody

1.

ENVIROTECH RESEARCH INC.
777 New Durham Road
Edison, New Jersey 08817
Phone: (908) 549-3900 Fax: (908) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice) Frances Schultz	Samplers Name (Printed) Maria Ramirez (GZA)	Site/Project Identification SSB/NYC - Subsurface Investigation
Company GZA GeoEnvironmental, Inc.	P.O. # STL Quote # 916736 12-01775	State (Location of site): NJ: ☐ NY: X Other:
Address 65 Willowbrook Blvd.	Analysis Turnaround Time Standard ☐	Regulatory Program: NYSDEC
City Wayne State NJ Zip 07470	Rush Charges Authorized For: 2 Week ☐ 1 Week X Other ☐	
Phone 973-256-7600 Fax 973-256-8339		

Sample Identification	Date	Time	Matrix	No. of Cont.	VO+10 (8021)	BN+15 (8270)	LAB USE ONLY Sample Numbers
MW-11 (6-8)'	2/12/02	11:25	Soil	1	x	x	332052
MW-5 (4-6)'	2/13/02	8:05	Soil	1	x	x	332053

LAB USE ONLY Project No: Job No: 1042

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH 6 = Other _____, 7 = Other _____

Soil: 1 Water:

Special Instructions: ONE WEEK TAT - Results on diskette deliverables (Excel)- Water Metals Filtered (Yes/No)?

Relinquished by 1)	Company GZA	Date / Time 2/14/02 1850 Received by 1)	Company STL STL Edison Jason Paluch
Relinquished by 2)	Company Jason Paluch	Date / Time 02.14.02 1551 Received by 2)	Company STL
Relinquished by 3)	Company	Date / Time Received by 3)	Company
Relinquished by 4)	Company	Date / Time Received by 4)	Company

Laboratory Certifications: New Jersey (12543), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132)

Non-Conformance Summary

1.

T64 T642

NON-CONFORMANCE SUMMARY

STL Edison Job Number: T642

Volatile Organics Analysis:

All data conforms with method requirements ____; or
Analysis was not requested ____; or
Non-conformance for the specific samples listed is as follows:
Method 8021: QA Batch 7322 recovery of n-butylbenzene is outside of QC limits (high) in the MS/MSD due to matrix interference. RPD exceeds QC limits for Naphthalene.

See continuation page if checked ( )

Base/Neutral and/or Acid Extractable Organics:

All data conforms with method requirements ____; or
Analysis was not requested ____; or
Non-conformance for the specific samples listed is as follows:

See continuation page if checked ( )

PCBs and/or Organochlorine Pesticides:

All data conforms with method requirements ____; or
Analysis was not requested ____; or
Non-conformance for the specific samples listed is as follows:

See continuation page if checked ( )

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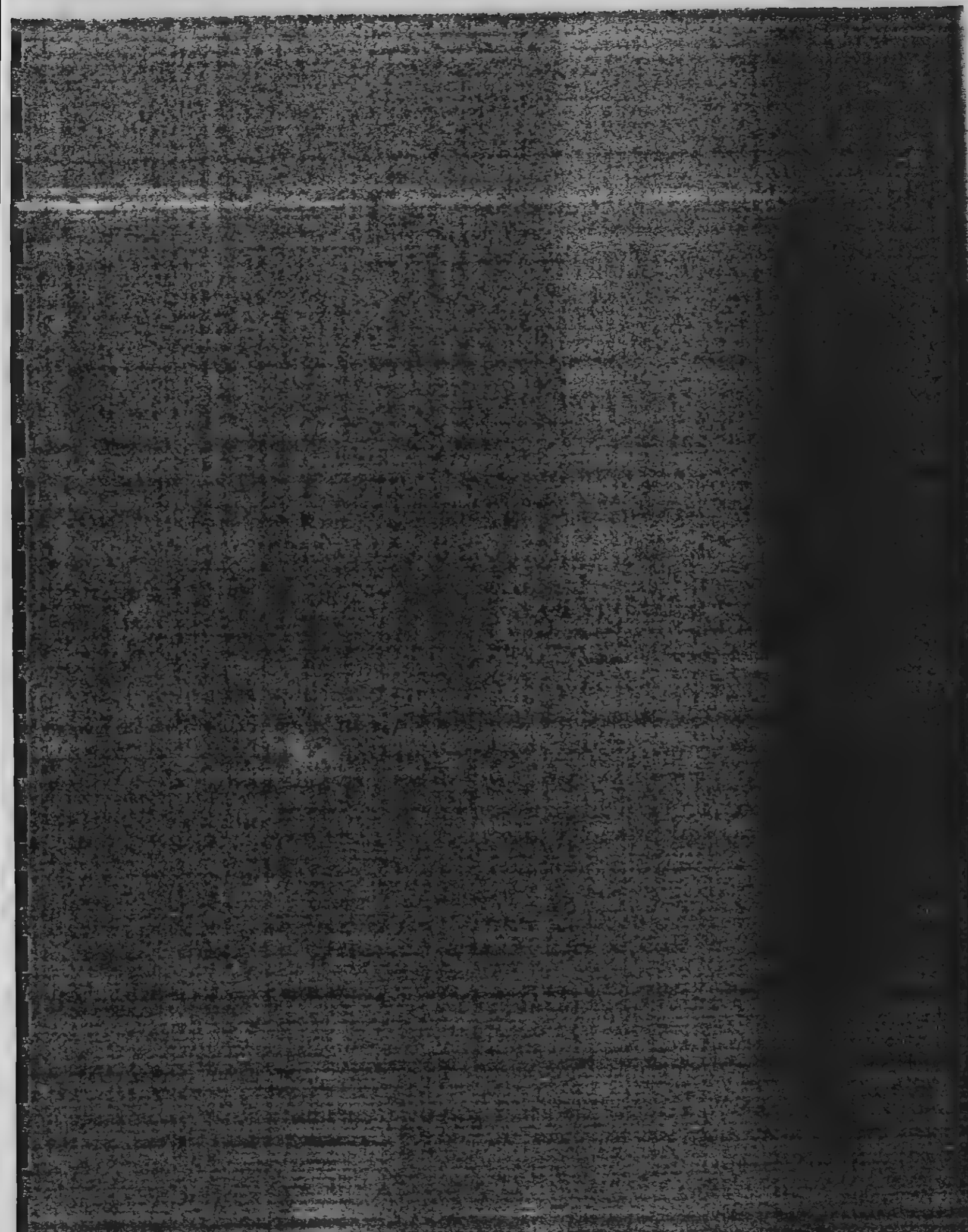

03/22/2002

GZA GeoEnvironmental
65 Willowbrook Blvd
Wayne, NJ 07470

Attention: Ms. Frances Schultz

SEVERN TRENT SERVICES

STL Edison
777 New Durham Road
Edison, NJ 08817

Tel: 732-549-3900
Fax: 732-549-3679
www.stl-inc.com

Laboratory Results
Job No. T710 - SSB/NY

Dear Ms. Schultz:

Enclosed are the results you requested for the following sample(s) received at our laboratory on February 15, 2002.

Lab No.	Client ID	Analysis Required
333051	MW-11-Product	GC Fingerprint NYSDOH 310-13
333052	MW-5	8021 Stars List 8270 Stars List NYS DOH 310-13
333053	Field_Blank	8021 Stars List 8270 Stars List NYS DOH 310-13
333054	Trip_Blank	8021 Stars List

An invoice for our services is also enclosed. If you have any questions please contact your Project Manager, Randy Wolfe, at (732) 549-3900.

Very Truly Yours,

Michael J. Urban
Laboratory Director

SEVERN TRENT SERVICES

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Sample Data Summary Package

SDG: T710

Site: SSB/NY

Lab/Client ID Cross Referrence

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND ANALYTICAL REQUIREMENT SUMMARY

Customer Sample Code	Laboratory Sample Code	Analytical Requirements						
		*VOA GC/MS Method	*BNA GC/MS Method	*VOA GC Method	*BNA GC Method	*PEST PCBs Method	*Metals Method	*Other
MW-11-Product	333051				❖			❖
MW-5	333052			❖	❖			❖
Field_Blank	333053			❖	❖			❖
Trip_Blank	333054			❖				

Sample Preparation and Analysis Summary

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
GC VOLATILES
ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
333052	WATER	2/15/02	2/15/02		2/18/02
333053	WATER	2/15/02	2/15/02		2/18/02
333054	WATER	2/15/02	2/15/02		2/18/02

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
SEMIVOLATILE (BNA)
ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
333052R1	WATER	2/15/02	2/15/02	2/18/02	2/22/02
333052	WATER	2/15/02	2/15/02	2/18/02	2/21/02
333053	WATER	2/15/02	2/15/02	2/18/02	2/21/02

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
SEMIVOLATILE (BNA)
ANALYSES

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Auxiliary Cleanup	Dil/Conc Factor
333051	ORGANIC	1989 NYSDEC ASP - Revision 10/95	Liquid-Liquid		5.00
333052R1	WATER	1989 NYSDEC ASP - Revision 10/95	Liquid-Liquid		1.00
333052	WATER	1989 NYSDEC ASP - Revision 10/95	Liquid-Liquid		1.00
333053	WATER	1989 NYSDEC ASP - Revision 10/95	Liquid-Liquid		1.00

SEVERN TRENT SERVICES

Analytical Results Summary

Client ID: MW-5
Site: SSB/NY

Lab Sample No: 333052
Lab Job No: T710

Date Sampled: 02/15/02
Date Received: 02/15/02
Date Analyzed: 02/18/02
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: gpid2091.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 8021B

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Benzene	ND	1.0
Toluene	ND	1.0
Ethylbenzene	1.6	1.0
Isopropylbenzene	ND	1.0
n-Propylbenzene	ND	1.0
1,3,5-Trimethylbenzene	ND	1.0
tert-Butylbenzene	ND	1.0
1,2,4-Trimethylbenzene	ND	1.0
sec-Butylbenzene	ND	1.0
p-Isopropyltoluene	ND	1.0
n-Butylbenzene	ND	1.0
Naphthalene	2.4	1.0
MTBE	24	1.0
Total Xylenes	ND	1.0

1

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SEVERN TRENT SERVICES

Client ID: Field_Blank
Site: SSB/NY

Lab Sample No: 333053
Lab Job No: T710

Date Sampled: 02/15/02
Date Received: 02/15/02
Date Analyzed: 02/18/02
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: gpid2092.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 8021B

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Benzene	ND	1.0
Toluene	ND	1.0
Ethylbenzene	ND	1.0
Isopropylbenzene	ND	1.0
n-Propylbenzene	ND	1.0
1,3,5-Trimethylbenzene	ND	1.0
tert-Butylbenzene	ND	1.0
1,2,4-Trimethylbenzene	ND	1.0
sec-Butylbenzene	ND	1.0
p-Isopropyltoluene	ND	1.0
n-Butylbenzene	ND	1.0
Naphthalene	ND	1.0
MTBE	ND	1.0
Total Xylenes	ND	1.0

SEVERN TRENT SERVICES

Client ID: Trip_Blank
Site: SSB/NY

Lab Sample No: 333054
Lab Job No: T710

Date Sampled: 02/15/02
Date Received: 02/15/02
Date Analyzed: 02/18/02
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: gpid2093.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 8021B

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Benzene	ND	1.0
Toluene	ND	1.0
Ethylbenzene	ND	1.0
Isopropylbenzene	ND	1.0
n-Propylbenzene	ND	1.0
1,3,5-Trimethylbenzene	ND	1.0
tert-Butylbenzene	ND	1.0
1,2,4-Trimethylbenzene	ND	1.0
sec-Butylbenzene	ND	1.0
p-Isopropyltoluene	ND	1.0
n-Butylbenzene	ND	1.0
Naphthalene	ND	1.0
MTBE	ND	1.0
Total Xylenes	ND	1.0

SEVERN TRENT SERVICES

Client ID: MW-5
Site: SSB/NY

Lab Sample No: 333052
Lab Job No: T710

Date Sampled: 02/15/02
Date Received: 02/15/02
Date Extracted: 02/18/02
Date Analyzed: 02/21/02
GC Column: DB-5
Instrument ID: BNAMS6.i
Lab File ID: m0475.d

Matrix: WATER
Level: LOW
Sample Volume: 980 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

PAH - GC/MS
METHOD 8270C

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Naphthalene	2.5J	10
Acenaphthene	0.7J	10
Fluorene	0.4J	10
Phenanthrene	0.7J	10
Anthracene	ND	10
Fluoranthene	ND	10
Pyrene	ND	10
Benzo(a)anthracene	ND	1.0
Chrysene	ND	10
Benzo(b)fluoranthene	ND	1.0
Benzo(k)fluoranthene	ND	1.0
Benzo(a)pyrene	ND	1.0
Indeno(1,2,3-cd)pyrene	ND	1.0
Dibenz(a,h)anthracene	ND	1.0
Benzo(g,h,i)perylene	ND	1.0

Client ID: Field_Blank
Site: SSB/NY

Lab Sample No: 333053
Lab Job No: T710

Date Sampled: 02/15/02
Date Received: 02/15/02
Date Extracted: 02/18/02
Date Analyzed: 02/21/02
GC Column: DB-5
Instrument ID: BNAMS6.i
Lab File ID: m0476.d

Matrix: WATER
Level: LOW
Sample Volume: 960 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

PAH - GC/MS
METHOD 8270C

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Naphthalene	ND	10
Acenaphthene	ND	10
Fluorene	ND	10
Phenanthrene	ND	10
Anthracene	ND	10
Fluoranthene	ND	10
Pyrene	ND	10
Benzo(a)anthracene	ND	1.0
Chrysene	ND	10
Benzo(b)fluoranthene	ND	1.0
Benzo(k)fluoranthene	ND	1.0
Benzo(a)pyrene	ND	1.0
Indeno(1,2,3-cd)pyrene	ND	1.0
Dibenz(a,h)anthracene	ND	1.0
Benzo(g,h,i)perylene	ND	10

1

Site: SSB/NY

Lab Job No: T710

Date Sampled: 2/15/02
Date Received: 2/15/02
Matrix: Water

Date Extracted: 2/18/02
Date Analyzed: 2/19/02

GC/FID FINGERPRINT

STL Edison Sample #	Client ID	Product I.D.
333051	MW-11-Product	Most closely resembles a Diesel/#2 Fuel Oil.

STL Edison is a part of Severn Trent Laboratories, Inc.

LABORATORY TEST RESULTS

Job Number: 208768

Date: 03/18/2002

CUSTOMER: STL Edison PROJECT: T710 ATTN: Paul Nadzan

Customer Sample ID: T710-333051
Date Sampled.....: 02/15/2002
Time Sampled.....: 11:00
Sample Matrix.....: Oil

Laboratory Sample ID: 208768-1
Date Received.....: 02/19/2002
Time Received.....: 09:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
310.13	Fuel Oil #1	1000000	U		1000000	mg/Kg	02/20/02	ljc
310.13	Fuel Oil #2	1000000	U		1000000	mg/Kg	02/20/02	ljc
310.13	Fuel Oil #4	1400000			1000000	mg/Kg	02/20/02	ljc
310.13	Fuel Oil #6	1000000	U		1000000	mg/Kg	02/20/02	ljc
310.13	Gasoline	Not Present			N/A	mg/Kg	02/20/02	ljc
310.13	Lube Oil	Not Present			N/A	mg/Kg	02/20/02	ljc
310.13	Unknown Hydrocarbon	Not Present			N/A	mg/Kg	02/20/02	ljc

1

In Description = Dry Wgt.

STL Newburgh is a part of Severn Trent Laboratories, Inc.

SEVERN TRENT SERVICES

NYSDOH 10142 NJDEP 73018 CTDOHS PH-0554 EPA NY049 PA 68-378 M-NY049

STL Newburgh
315 Fullerton Avenue
Newburgh, NY 12550
Tel (845) 562-0890
Fax (845) 562-0841

T710

LABORATORY TEST RESULTS

Job Number: 208768 Date: 02/22/2002

CUSTOMER: ST-Edison PROJECT: T710 ATTN: Paul Hadzen

Customer Sample ID: T710-333052
Date Sampled.....: 02/15/2002
Time Sampled.....: 11:50'
Sample Matrix.....: Water

Laboratory Sample ID: 208768-2
Date Received.....: 02/19/2002
Time Received.....: 09:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
310.13	Fuel Oil #1	0.1	U		0.1	uL/L	02/21/02	ljc
310.13	Fuel Oil #2	0.1	U		0.1	uL/L	02/21/02	ljc
310.13	Fuel Oil #4	0.3			0.1	uL/L	02/21/02	ljc
310.13	Fuel Oil #6	0.1	U		0.1	uL/L	02/21/02	ljc
310.13	Gasoline	NOT PRESENT					02/21/02	ljc
310.13	Lube Oil	NOT PRESENT					02/21/02	ljc
310.13	Unknown Hydrocarbon	NOT PRESENT					02/21/02	ljc

In Description = Dry Wgt.

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STL Newburgh
315 Fullerton Avenue
Newburgh, NY 12550
Tel (845) 562-0900
Fax (845) 562-0841

T710

LABORATORY TEST RESULTS

Job Number: 208768 Date: 02/22/2002

CUSTOMER: STL Edison PROJECT: T710 ATTN: Paul Nadzeh

Customer Sample ID: T710-333053
Date Sampled.....: 02/15/2002
Time Sampled.....: 11:45
Sample Matrix.....: Water

Laboratory Sample ID: 208768-3
Date Received.....: 02/19/2002
Time Received.....: 09:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
310.13	Fuel Oil #1	0.1	U		0.1	uL/L	02/21/02	ljc
310.13	Fuel Oil #2	0.1	U		0.1	uL/L	02/21/02	ljc
310.13	Fuel Oil #4	0.1	U		0.1	uL/L	02/21/02	ljc
310.13	Fuel Oil #6	0.1	U		0.1	uL/L	02/21/02	ljc
310.13	Gasoline	NOT PRESENT					02/21/02	ljc
310.13	Lube Oil	NOT PRESENT					02/21/02	ljc
310.13	Unknown Hydrocarbon	PRESENT					02/21/02	ljc

In Description = Dry Wgt.

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T710

General Information

Chain of Custody

ENVIROTECH RESEARCH INC.
777 New Durham Road
Edison, New Jersey 08817
Phone: (908) 549-3900 Fax: (908) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice) Frances Schultz	Samplers Name (Printed) Maria Ramirez (GZA)	Site/Project Identification SSB/NYC - Subsurface Investigation
Company GZA GeoEnvironmental, Inc.	P.O. # STL Quote # 916736 12-01776	State (Location of site): NJ: [ ] NY: [x] Other:
Address 65 Willowbrook Blvd.	Analysis Turnaround Time Standard [ ]	Regulatory Program: NYSDEC
City Wayne State NJ Zip 07470	Rush Charges Authorized For: 2 Week [ ] 1 Week [x] Other [ ]	
Phone 973-256-7800 Fax 973-256-9339		

Sample Identification	Date	Time	Matrix	No. of Cont.	VO+10 (8021)	BN+15 (8270)	NYSDOH 310-3	Petroleum Fingerprint	LAB USE ONLY Sample Numbers
MW-11 PRODUCT	2/15/02	11:00	AQ.	1			X	X	333051
MW-5	2/15/02	11:50	AQ.	5	X	X	X		333052
FIELD BLANK	2/15/02	11:45	AQ.	4	X	X	X		333053
TRIP BLANK	2/14/02	-	AQ.	2	X				333054

LAB USE ONLY Project No: Job No: T 710

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____

Soil: 4
Water: 1,2

Special Instructions: ONE WEEK TAT - Results on diskette deliverables (Excel)-

Water Metals Filtered (Yes/No)? _____

Relinquished by 1) Maria E. R	Company GZA	Date / Time 2/15/02 1615 Received by 1)	Company GR
Relinquished by 2)	Company	Date / Time 2/15/02 1715 Received by 2)	Company STL Edison
Relinquished by 3)	Company	Date / Time Received by 3)	Company
Relinquished by 4)	Company	Date / Time Received by 4)	Company

Laboratory Certifications: New Jersey (12543), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132)

Non-Conformance Summary

NON-CONFORMANCE SUMMARY

STL Edison Job Number: T710

Volatile Organics Analysis:

All data conforms with method requirements ✓; or
Analysis was not requested _____; or
Non-conformance for the specific samples listed is as follows:

See continuation page if checked ( )

Base/Neutral and/or Acid Extractable Organics:

All data conforms with method requirements _____; or
Analysis was not requested _____; or
Non-conformance for the specific samples listed is as follows:

(33852) recovery of Surrogate #6 outside of QC limits (low). Not enough volume for re-extraction

See continuation page if checked ( )

PCBs and/or Organochlorine Pesticides:

All data conforms with method requirements _____; or
Analysis was not requested ✓; or
Non-conformance for the specific samples listed is as follows:

See continuation page if checked ( )

Non-conformance Summary, Page 2 of 2
STL Edison Job Number: T710

Metals Analysis:

All data conforms with method requirements ____; or
Analysis was not requested ✓; or
Non-conformance for the specific samples listed is as follows:

See continuation page if checked ( )

Total Petroleum Hydrocarbons:

All data conforms with method requirements ____; or
Analysis was not requested ✓; or
Non-conformance for the specific samples listed is as follows:

See continuation page if checked ( )

General Chemistry/Disposal Parameters:

All data conforms with method requirements ____; or
Analysis was not requested ✓; or
Non-conformance for the specific samples listed is as follows:

See continuation page if checked ( )

Signature of
Laboratory Manager: _____ Date: 3.21.02

Subwork

SAMPLE DATA SUMMARY PACKAGE
STL Edison
Edison, New Jersey
Project: T710
STL Lab.#: 208768
Matrix: Water
1 of 1

TPH

Sample Extraction

The following samples were extracted using the indicated volume:

T710-333052 (209768-02): 990 ml
T710-333053 (209768-03): 960 ml

Initial Dilution

The following sample was initially diluted as indicated due to suspected high concentration of hydrocarbons:

T710-333051 (208768-01): 1000x

Matrix Spike/Matrix Spike Duplicate

Due to insufficient sample the water matrix spike/matrix spike duplicate was performed on laboratory tap water.

Please note that a matrix spike/matrix spike duplicate was performed on the oil sample T710-333051 (208768-01) however, due to the high concentration of hydrocarbons the sample was not analyzed.

SAMPLE INFORMATION
Date: 03/18/2002

Job Number.: 208768
Customer...: STL Edison
Attn.....: Paul Nadzan

Project Number.....: 20000415
Customer Project ID....: T710
Project Description....: STL Edison

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
208768-1	T710-333051	Oil	02/15/2002	11:00	02/19/2002	09:00
208768-2	T710-333052	Water	02/15/2002	11:50	02/19/2002	09:00
208768-3	T710-333053	Water	02/15/2002	11:45	02/19/2002	09:00

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Fax (845) 562-0841

T710

LABORATORY CHRONICLE

Job Number: 208768 Date: 03/18/2002

CUSTOMER: STL Edison PROJECT: T710 ATTN: Paul Nedzan

Lab ID: 208768-1 Client ID: T710-333051
Date Recvd: 02/19/2002 Sample Date: 02/15/2002

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
QA Services	Quality Assurance Services	1	18264		03/08/2002 0000	
310.13	TPH 310.13	1	17496		02/20/2002 0000	

Lab ID: 208768-2 Client ID: T710-333052
Date Recvd: 02/19/2002 Sample Date: 02/15/2002

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
QA Services	Quality Assurance Services	1	18264		03/08/2002 0000	
310.13	TPH 310.13	1	17406		02/21/2002 0000	

Lab ID: 208768-3 Client ID: T710-333053
Date Recvd: 02/19/2002 Sample Date: 02/15/2002

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
QA Services	Quality Assurance Services	1	18264		03/08/2002 0000	
310.13	TPH 310.13	1	17406		02/21/2002 0000	

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T710

SAMPLE IDENTIFICATION AND ANALYTICAL REQUIREMENT SUMMARY

Customer Sample Code	Laboratory Sample Code	Analytical Requirements					
		*VOA GC/MS Method #	*BNA GC/MS Method #	*VOA GC Method #	*PEST PCBs Method #	*Metals	*Other
T710-333051	208768-01						118
T710-333052	208768-02						118
T710-333053	208768-03						118

*See attached summary of methodology for method numbers.

SUMMARY OF METHODOLOGY

I

Analysis	Aqueous	Ground Water Liquid/Solid Matrices
1 % Solid	EPA 160.3(A)	EPA 160.3(A)
2 Alkalinity-Tit.	SM182320-B(Q)	
3 Ammonia	SM184500-NH3E(Q)	
4 Ammonia	SM184500-NH3F(Q)	
5 Ammonia	LAC107061A(U)	
6 Antimony	EPA 204.2(A,D)	
7 Antimony	SM183113B(Q)	
8 Arsenic	EPA 206.2(A,D)	
9 Arsenic		SW846-7060A(B,D)
10 Arsenic	SM183113B(Q)	
11 Beryllium	SM183113B(Q)	
12 BOD	SM185210-B(Q)	
13 Bromide	EPA 300(A)	
14 Cadmium	SM183113B(Q)	
15 CBOD	SM185210-B(Q)	
16 Chloride	SM184500-CL-B(Q)	
17 Chloride(DW)	SM174500-CL-B(N)	
18 Chloride-IC	EPA 300(A)	
19 COD (high)	EPA 410.4(A)	
20 COD (low)	HACH 8000(W)	
21 Color	SM18 2120-B(Q)	
22 Coliform, Total-MF	SM18 9222B(Q)	
23 Coliform, Total	SM18 9223-MPN(Q)	
24 Conductivity	SM182510-B(Q)	
25 Cyanide	SM184500-CNE(Q)	
26 Cyanide		SW846-9010B(B)
27 Cyanide	LAC204001A(R)	
28 Cyanide, Amenable	SM184500-CNG(Q)	SW846-9010B(B)
29 Dissolved Oxygen	SM184500-O-C(Q)	
30 DRO		EPA DRO Draft Rev.5 (Y)
31 Enterococcus	ENTEROLERT	
32 E.Coli	SM18 9223-MPN(Q)	
33 Eptox		SW846-1310A(B)
34 Ethylene glycol	NYSDEC 89-9(M)	
35 ETPH	(AA)	
36 F. Coli-MF	SM189222C(Q)	
37 F. Coli-MF	SM189222D(Q)	
38 F. Coli-MPN	SM189221C(Q)	
39 Ferrous Iron	SM183500-FED(Q)	

40 Flashpoint		SW846-1010(B)
41 Fluoride, Total	EPA 340.2(A)	EPA 340.2(A)
42 Fluoride, Total	EPA 300(A)	
43 Grease & Oil	SM185520-B(Q)	
44 Grease & Oil	EPA 413.1 (A)	
45 GRO		EPA GRO Draft Rev. 5(Y)
46 Hardness, Total	EPA 200.7(A)	
47 Hardness, Total	EPA 130.2(A)	
48 Heat of Combustion	D2015(X)	
49 Herbicides		SW846-8151A(B)
50 Herbicides	EPA 515.1(L)	
51 Hex Chrome		SW846-7196A(B)
52 Hex Chrome	SM183500-Cr-D(Q)	
53 ICP Metals		SW846-6010B(B)
54 ICP Metals	EPA 200.7(A)	
55 Langlier Index	SM182330B(Q)	
56 Lead		SW846-7421(B,C)
57 Lead	EPA 239.2(A,D)	
58 Lead		SW846-7420(B,D)
59 Lead	SM183113B(Q)	
60 MBAS	SM185540-C(Q)	
61 Mercury		SW846-7470A(B)
62 Mercury		SW846-7471A(B)
63 Mercury	EPA 245.1(A)	
64 Mercury	EPA 245.2(A)	
65 Nitrate-AA	SM174500-NO3F(N)	
66 Nitrate-IC	EPA 300(A)	
67 Nitrate-Nitrite	SM184500-NO3F(Q)	
68 Nitrate-Nitrite	LAC107041A(T)	
69 Nitrite	EPA 354.1(A)	
70 Nitrite	SM184500-NO2-B(Q)	
71 Odor	SM182150(Q7)	
72 Organochlorine PSTs		SW846-8081A(B)
73 Organochlorine PSTs	EPA 608(F)	
74 Paint Filter Test		SW846-9095A(B)
75 PCB's	EPA 508(H)	
76 Pesticides/PCB's		SW846-8082(B)
77 Pesticides/PCB's	95.3(Z)	95.3(Z)
78 Pesticides/PCB's	EPA 505(H)	
79 pH		SW846-9045C(B)
80 pH	SM184500-H-B(Q)	
81 Phenols		SW846-9065(B)
82 Phenols	EPA 420.A(A)	

83 Phenols	LAC210001A(S)	
84 Phosphate, Ortho	SM184500-PE(Q)	
85 Phosphate, Total	EPA 365.3(A)	
86 Propylene glycol	Modified 8015(B)	
87 Reactivity		SW846-7.3.2(B)
88 Selenium		SW846-7740(B,D)
89 Selenium	EPA 270.2(A,D)	
90 Selenium	SM183113B(Q)	
91 Semi-Volatiles		SW846-8270C(B)
92 Semi-Volatiles	EPA 625(E)	
93 Semi-volatiles	95.2(Z)	95.2(Z)
94 Semi-Volatiles	EPA 525.1(H)	
95 Specific Gravity		D1298-83
96 Specific Conductance	SM182510B(Q)	
97 SS	EPA 160.5(A)	
98 Sulfate		EPA 375.4(A)
99 Sulfate	EPA 375.4(A)	
100 Sulfate	EPA 300(A)	
101 Sulfide		SM184500-S2E(Q)
102 Sulfide	SM184500-S2E(Q)	
103 Sulfite	SM184500-SO3B(Q)	
104 Sulfite		SM184500SO3B(Q)
105 TCLP		SW846-1311(B)
106 TDS	EPA 160.1(A)	
107 TDS	SM182540C(Q)	
108 Temperature	EPA 170.1(A)	
109 Thallium		SW846-7841(B,D)
110 Thallium	EPA 279.2(A,D)	
111 Thallium	EPA 200.9(A)	
112 Tin	EPA 282.2 (A)	
113 TOC	SM185310-B(Q)	
114 Total Kjeldahl Nitrogen	SM184500NH3-F(Q)	
115 Total Kjeldahl Nitrogen	LAC107062D(V)	
116 TOX		SW846-9020B(B)
117 TPH	EPA 418.1(A)	
118 TPH 310.13		LOAC 310.13(P)
119 TPH-Calif.	Calif. DHS 8015	Calif. DHS 8015
120 TS	EPA 160.3(A)	
121 TSS	EPA 160.2(A)	
122 Turbidity	SM182130-B(Q) and EPA 180.1(A)	
123 Volatiles Organics		SW846-8260B(B)
124 Volatiles Organics	EPA 624(E)	
125 Volatiles Organics	EPA 524.2(H)	

126 Volatiles Organics	EPA 502.2(K)	
127 Volatiles Organics	EPA 504.1(H)	
128 Volatiles Organics		SW846-8021B(B)
129 Volatiles Organics	EPA 601(F)	
130 Volatiles Organics	EPA 602(F)	
131 Volatiles Organics	95.1(Z)	95.1(Z)
132 Volatiles Organics	95.4(Z)	95.4(Z)
133 Volatiles Organics	OLC02.1(AB)	
134 Volatiles Organics	OLM03.2(AC)	

References

A. "Methods for Chemical Analysis of Water and Wastewater", EPA-600/4-79-020, March 1983.
B. "Test Methods for Evaluating Solid Waste",USEPA-SW846, Third Edition, September 1986 with all current revisions.
C. Atomic Absorption - Direct Aspiration
D. Atomic Absorption - Furnace Technique
E. Federal Register, V. 50 No. 3, January 4, 1985.
F. Federal Register, V. 49, No. 209, October 26, 1984.
G. "Standard Methods for the Examination of Water and Wastewater", 16th Edition, 1986.
H. "Methods for the Determination of Organic Compounds in Drinking Water, EPA/600/4-88/039, December 1988.
I. The Anaylsis of Trihalomethanes in Finished Waters by the Purge and Trap Method, EMSL, Cincinnati, Ohio 45268, November 6, 1979.
J. Volatile Aromatic and Unsaturated Organic Compounds in Water by Purge and Trap Gas Chromatography, EMSL, Cincinnati, Ohio, 45268, Revision 2.0, (1989).
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N. "Standard Methods for the Examination of Water and Wastewater", 17th Edition, 1989.
O. "ASTM, Petroleum Products, Lubricants, and Fossil Fuels, Vol. 5.01 D56-D1947, 1990.
P. " Analytical Handbook for the Laboratory of Organic Analytical Chemistry", Wadsworth Center for Laboratories and Research, New York State Department of Health, August, 1991.
Q. "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992.
R. "Determination of Cyanide" (Macro Distillation Method in Waters), QUIK CHEM Method 10-204-00-1-A, Karin Wendt, Revised June 6, 1996, Lachat Instruments, Milwaukee, Wi. 53218
S. "Determination of Total Recoverable Phenols by Flow Injection Analysis Colorimetry",

QUIK CHEM Method 10-210-00-1-A, Ninglan Liao, Revised August 6, 1996, Lachat Instruments, Milwaukee, Wi. 53218.

T. "Determination of Nitrate/Nitrite in Surface and Wastewaters by Flow Injection Analysis", QUIK CHEM Method 10-107041A, Karin Wendt, Revised June 24, 1997, Zellweger Analytics, Milwaukee, Wi. 53218.

U. "Determination of Ammonia by Flow Injection Analysis Colorimetry", QUIK CHEM Method 10-107-06-1-A, Kevin Switala, Revised May 20 ,1997, Lachat Instruments, Milwaukee, Wi. 53218.

V. "Determination of Nitrogen, Total Kjeldahl by Flow Injection Analysis Colorimetry", QUIK CHEM Method 10-107-06-2-D, Kevin Switala, Revised October 7,1997, Lachat Instruments, Milwaukee, Wi. 53218.

W. HACH8000 1979 Handbook

X. NYS Department of Health, APC44, Revision 5/91.

Y. EPA Method for the Determination of Gasoline Range Organics, Draft, Rev. 5 , 2/5/92.

Z. "New York State Department of Environmental Conservation Analytical Services Protocol, Vol. 1, October 1995.

AA. "Analysis of Extractable Total Petroleum Hydrocarbons (ETPH) Using Methylene Chloride Gas Chromatograph/Flame Ionization Detection", Environmental Research Institute, University of Connecticut, March 1999.

AB. USEPA CLP SOW for Organics Analysis Low Concentration Water

AC. USEPA CLP SOW for Organics Analysis Multi-Media, Multi-Concentration

LABORATORY TEST RESULTS

Job Number: 208768 Date: 03/18/2002

CUSTOMER: STL Edison PROJECT: 1710 ATTN: Paul Nadzan

Customer Sample ID: T710-333051
Date Sampled.....: 02/15/2002
Time Sampled.....: 11:00
Sample Matrix.....: Oil

Laboratory Sample ID: 208768-1
Date Received.....: 02/19/2002
Time Received.....: 09:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
310.13	Fuel Oil #1	1000000	U		1000000	mg/Kg	02/20/02	ljc
310.13	Fuel Oil #2	1000000	U		1000000	mg/Kg	02/20/02	ljc
310.13	Fuel Oil #4	1400000			1000000	mg/Kg	02/20/02	ljc
310.13	Fuel Oil #6	1000000	U		1000000	mg/Kg	02/20/02	ljc
310.13	Gasoline	Not Present			N/A	mg/Kg	02/20/02	ljc
310.13	Lube Oil	Not Present			N/A	mg/Kg	02/20/02	ljc
310.13	Unknown Hydrocarbon	Not Present			N/A	mg/Kg	02/20/02	ljc

1

In Description = Dry Wgt.

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T710

LABORATORY TEST RESULTS

Job Number: 208768

Date: 02/22/2002

CUSTOMER: STL Edison PROJECT: T710 ATTN: Paul Nadzeo

Customer Sample ID: T710-333052
Date Sampled.....: 02/15/2002
Time Sampled.....: 11:50
Sample Matrix.....: Water

Laboratory Sample ID: 208768-2
Date Received.....: 02/19/2002
Time Received.....: 09:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
310.13	Fuel Oil #1	0.1	U		0.1	uL/L	02/21/02	ljc
310.13	Fuel Oil #2	0.1	U		0.1	uL/L	02/21/02	ljc
310.13	Fuel Oil #4	0.3			0.1	uL/L	02/21/02	ljc
310.13	Fuel Oil #6	0.1	U		0.1	uL/L	02/21/02	ljc
310.13	Gasoline	NOT PRESENT					02/21/02	ljc
310.13	Lube Oil	NOT PRESENT					02/21/02	ljc
310.13	Unknown Hydrocarbon	NOT PRESENT					02/21/02	ljc

In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 208768 Date: 02/22/2002

CUSTOMER: STL Edison PROJECT: T710 ATTN: Paul Nadzan

Customer Sample ID: T710-333053
Date Sampled.....: 02/15/2002
Time Sampled.....: 11:45
Sample Matrix.....: Water

Laboratory Sample ID: 208768-3
Date Received.....: 02/19/2002
Time Received.....: 09:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
310.13	Fuel Oil #1	0.1	U		0.1	uL/L	02/21/02	ljc
310.13	Fuel Oil #2	0.1	U		0.1	uL/L	02/21/02	ljc
310.13	Fuel Oil #4	0.1	U		0.1	uL/L	02/21/02	ljc
310.13	Fuel Oil #6	0.1	U		0.1	uL/L	02/21/02	ljc
310.13	Gasoline	NOT PRESENT					02/21/02	ljc
310.13	Lube Oil	NOT PRESENT					02/21/02	ljc
310.13	Unknown Hydrocarbon	PRESENT					02/21/02	ljc

In Description = Dry Wgt.

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T710

3B

SOIL TPH BLANK SPIKE RECOVERY

Lab Name: STL Newburgh Client Name: STL-Edison

Matrix Spike - Client Sample No.: Oil Blank Spike

Matrix Spike - STE Sample No.: Oil Blank Spike

Instrument ID: GC#1

Date of Analysis: 2/21/2002

COMPOUND	SPIKE ADDED (mg/kg)	SAMPLE CONCENTRATION (mg/kg)	BS CONCENTRATION (mg/kg)	BS % REC	#	QC. LIMITS REC.
TPH	855.0	0.0	694.0	81		(46-124)

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Comments:

FORM III 768sbs 9/96

16

WATER TPH BLANK SPIKE RECOVERY

Lab Name: STL Newburgh Client Name: STL-Edison

Matrix Spike - Client Sample No.: 310 H20 Blank Spike

Matrix Spike - STE Sample No.: 310 H20 Blank Spike

Instrument ID: GC#1

Date of Analysis: 2/21/02

COMPOUND	SPIKE ADDED (uL/L)	SAMPLE CONCENTRATION (uL/L)	BS CONCENTRATION (uL/L)	BS % REC	#	QC. LIMITS REC.
TPH	1.0	0	0.59	59		(46-124)

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Comments:

1

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STL Newburgh
315 Fullerton Avenue
Newburgh, NY 12550
Tel (845) 562-0890

3B

WATER TPH MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: STL Newburgh Client Name: STL-Edison

Matrix Spike - Client Sample No.: ZZZZZ

Matrix Spike - STL Sample No.: ZZZZZ

Instrument ID: GC#1

Date of Analysis: 2/21/02

COMPOUND	SPIKE ADDED (uL/L)	SAMPLE CONCENTRATION (uL/L)	MS CONCENTRATION (uL/L)	MS % REC #	QC. LIMITS REC.
TPH	1.0	0.0	0.57	57	(46-124)

COMPOUND	SPIKE ADDED (uL/L)	MSD CONCENTRATION (uL/L)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
TPH	1.0	0.59	59	3	50	(46-124)

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

1.

Comments: _____

Page 1 of 1

FORM III

9/96

Client ID: 310 Oil Blank
STL Lab No.: 310 Oil Blank
Client Name: STL-Edison
Project Name: T710
% Solid: 100
Matrix: Soil
Sample Wt/Vol.: 1 g
Level: Low

Date Collected:
Date Received:
Date Extracted: 2/20/02
Date Analyzed: 2/21/02
Report Date: 3/15/02
Column: RTx-5
Lab File ID: S02866.D
Dilution Factor: 1

CAS No.	Compound	Detection Limit mg/kg	Conc mg/kg
	[illegible]	[illegible]	[illegible]
	Fuel Oil #2	860.00	U
	[illegible]	[illegible]	[illegible]
	Fuel Oil #6	860.00	U
	[illegible]	[illegible]	not present
	Lube Oil		not present
	Unknown Hydrocarbon		not present

1

FORM I - TPH

Client ID: 310 H20 Blank
STL Lab No.: 310 H20 Blank
Client Name: STL-Edison
Project Name: T710
% Solid: 100
Matrix: Water
Sample Wt/Vol.: 1000 ml
Level: Low

Date Collected:
Date Received:
Date Extracted: 2/20/2002
Date Analyzed: 2/21/2002
Report Date: 3/18/2002
Column: Rtx-5
Lab File ID: S02860.D
Dilution Factor: 1

CAS No.	Compound	Detection Limit uL/L	Conc uL/L
	Fuel Oil #1	0.10	U
	Fuel Oil #2	0.10	U
	Fuel Oil #4	0.10	U
	Fuel Oil #6	0.10	U
	Gasoline		not present
	Lube Oil		not present
	Unknown Hydrocarbon		not present

1

FORM I - TPH

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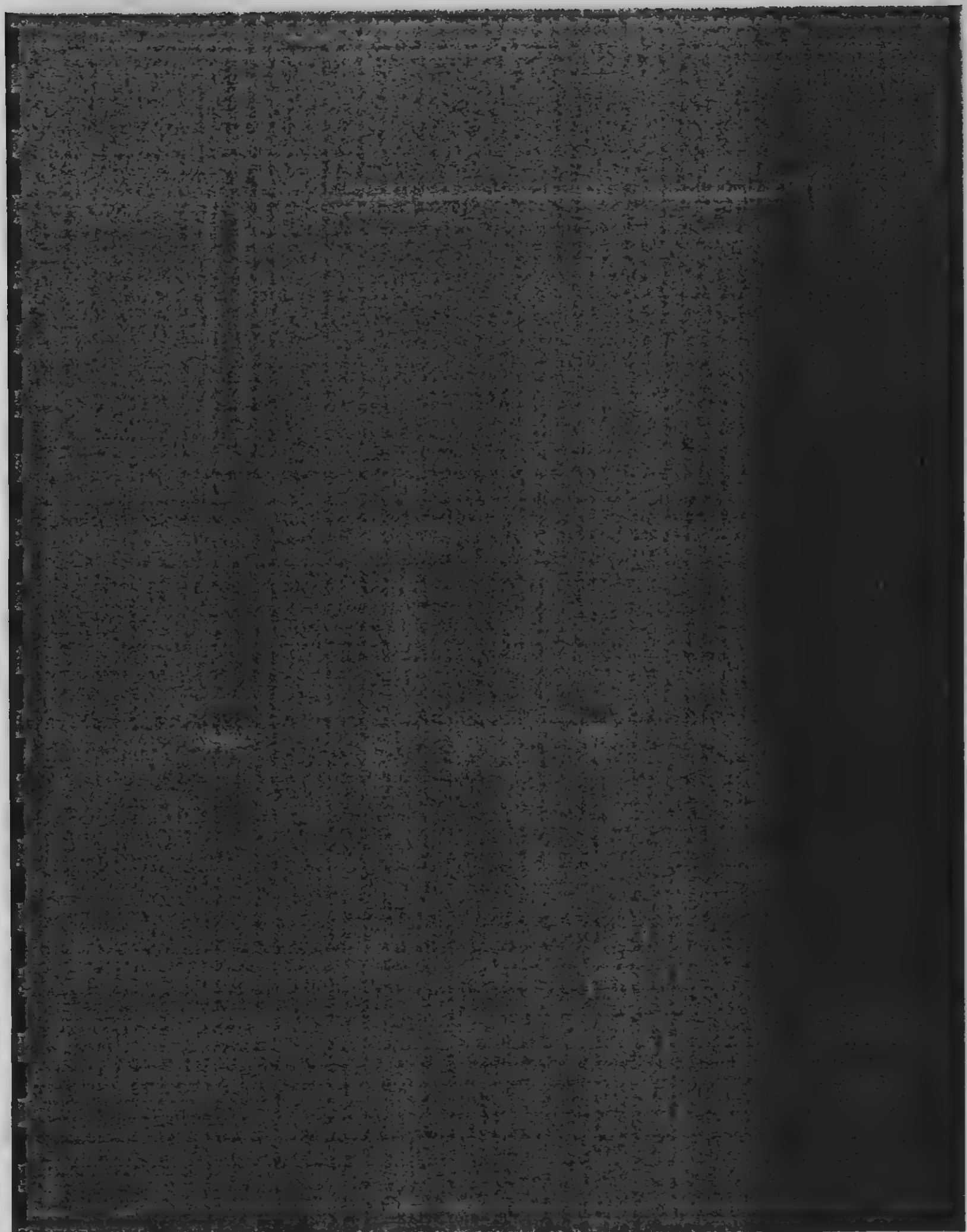

STL Edison
Edison, New Jersey
Project: T710
STL Lab. #: 208768
Matrix: Water
1 of 1

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GC ORGANIC DATA

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ST
Newburg
Tel (84

SEVERN TRENT SERVICES

STL Newburgh
315 Fullerton Avenue
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Tel 914 562 0890
Fax 914 562 0841
www.stl-inc.com

March 18, 2002

STL Edison
777 New Durham Road
Edison, New Jersey 08817

Attn.: Mr. Paul Nadzan

SUBJECT: CASE NARRATIVE, T710,
STL NUMBER 208768.

Dear Mr. Nadzan:

Enclosed are the analytical results for the T710 project. The samples were received on February 19, 2002 and were prepared and analyzed according to EPA established methodologies and protocols. The reports were completed according to NYSDEC ASP Category B requirements.

Your evaluation of the enclosed data should incorporate the use of the attached case narrative.

I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

STL NEWBURGH

Patricia Chany dp

Patricia Chany
Laboratory Director

CASE NARRATIVE
Client: STL-Edison
Date: 3/18/02
STL Lab No. 208768

TPH

Sample Extraction

The following samples were extracted using the indicated volume:

T710-333052 (208768-02): 990 ml
T710-333053 (208768-03): 960 ml

Initial Dilution

The following sample was initially diluted as indicated due to suspected high concentration of hydrocarbons:

T710-333051 (208768-01): 1000x

Matrix Spike/Matrix Spike Duplicate

Due to insufficient sample the water matrix spike/matrix spike duplicate was performed on laboratory tap water.

Please note that a matrix spike/matrix spike duplicate was performed on the oil sample T710-333051 (208768-01) however, due to the high concentration of hydrocarbons the sample was not analyzed.

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315 Fullerton Avenue
Newburgh, NY 12550
Tel (845) 562-0890

SAMPLE INFORMATION
Date: 03/18/2002

Job Number.: 208768
Customer...: STL Edison
Attn.....: Paul Nadzan

Project Number.....: 20000415
Customer Project ID....: T710
Project Description....: STL Edison

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
208768-1	T710-333051	Oil	02/15/2002	11:00	02/19/2002	09:00
208768-2	T710-333052	Water	02/15/2002	11:50	02/19/2002	09:00
208768-3	T710-333053	Water	02/15/2002	11:45	02/19/2002	09:00

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000003
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STL Newburgh
315 Fullerton Avenue
Newburgh, NY 12550
Tel (845) 562-0890

LABORATORY CHRONICLE

Job Number: 208768

Date: 03/18/2002

CUSTOMER: STL Edison | PROJECT: T710 | ATTN: Paul Nadzan

Lab ID: 208768-1 Client ID: T710-333051 Date Recvd: 02/19/2002 Sample Date: 02/15/2002

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
QA Services	Quality Assurance Services	1	18264		03/08/2002 0000	
310.13	TPH 310.13	1	17496		02/20/2002 [redacted]	

Lab ID: 208768-2 Client ID: T710-333052 Date Recvd: 02/19/2002 Sample Date: 02/15/2002

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
QA Services	Quality Assurance Services	1	18264		03/08/2002 0000	
310.13	TPH 310.13	1	17406		02/21/2002 0000	

Lab ID: 208768-3 Client ID: T710-333053 Date Recvd: 02/19/2002 Sample Date: 02/15/2002

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
QA Services	Quality Assurance Services	1	18264		03/08/2002 0000	
310.13	TPH 310.13	1	17406		02/21/2002 0000	

1

SAMPLE IDENTIFICATION AND ANALYTICAL REQUIREMENT SUMMARY

Customer Sample Code	Laboratory Sample Code	Analytical Requirements					
		*VOA GC/MS Method #	*BNA GC/MS Method #	*VOA GC Method #	*PEST PCBs Method #	*Metals	*Other
T710-333051	208768-01						118
T710-333052	208768-02						118
T710-333053	208768-03						118

*See attached summary of methodology for method numbers.

Analysis	Aqueous	Ground Water Liquid/Solid Matrices
1 % Solid	EPA 160.3(A)	EPA 160.3(A)
2 Alkalinity-Tit.	SM182320-B(Q)	
3 Ammonia	SM184500-NH3E(Q)	
4 Ammonia	SM184500-NH3F(Q)	
5 Ammonia	LAC107061A(U)	
6 Antimony	EPA 204.2(A,D)	
7 Antimony	SM183113B(Q)	
8 Arsenic	EPA 206.2(A,D)	
9 Arsenic		SW846-7060A(B,D)
10 Arsenic	SM183113B(Q)	
11 Beryllium	SM183113B(Q)	
12 BOD	SM185210-B(Q)	
13 Bromide	EPA 300(A)	
14 Cadmium	SM183113B(Q)	
15 CBOD	SM185210-B(Q)	
16 Chloride	SM184500-CL-B(Q)	
17 Chloride(DW)	SM174500-CL-B(N)	
18 Chloride-IC	EPA 300(A)	
19 COD (high)	EPA 410.4(A)	
20 COD (low)	HACH 8000(W)	
21 Color	SM18 2120-B(Q)	
22 Coliform, Total-MF	SM18 9222B(Q)	
23 Coliform, Total	SM18 9223-MPN(Q)	
24 Conductivity	SM182510-B(Q)	
25 Cyanide	SM184500-CNE(Q)	
26 Cyanide		SW846-9010B(B)
27 Cyanide	LAC204001A(R)	
28 Cyanide, Amenable	SM184500-CNG(Q)	SW846-9010B(B)
29 Dissolved Oxygen	SM184500-O-C(Q)	
30 DRO		EPA DRO Draft Rev.5 (Y)
31 Enterococcus	ENTEROLERT	
32 E.Coli	SM18 9223-MPN(Q)	
33 Eptox		SW846-1310A(B)
34 Ethylene glycol	NYSDEC 89-9(M)	
35 ETPH	(AA)	
36 F. Coli-MF	SM189222C(Q)	
37 F. Coli-MF	SM189222D(Q)	
38 F. Coli-MPN	SM189221C(Q)	
39 Ferrous Iron	SM183500-FED(Q)	

40 Flashpoint		SW846-1010(B)
41 Fluoride, Total	EPA 340.2(A)	EPA 340.2(A)
42 Fluoride, Total	EPA 300(A)	
43 Grease & Oil	SM185520-B(Q)	
44 Grease & Oil	EPA 413.1 (A)	
45 GRO		EPA GRO Draft Rev. 5(Y)
46 Hardness, Total	EPA 200.7(A)	
47 Hardness, Total	EPA 130.2(A)	
48 Heat of Combustion	D2015(X)	
49 Herbicides		SW846-8151A(B)
50 Herbicides	EPA 515.1(L)	
51 Hex Chrome		SW846-7196A(B)
52 Hex Chrome	SM183500-Cr-D(Q)	
53 ICP Metals		SW846-6010B(B)
54 ICP Metals	EPA 200.7(A)	
55 Langlier Index	SM182330B(Q)	
56 Lead		SW846-7421(B,C)
57 Lead	EPA 239.2(A,D)	
58 Lead		SW846-7420(B,D)
59 Lead	SM183113B(Q)	
60 MBAS	SM185540-C(Q)	
61 Mercury		SW846-7470A(B)
62 Mercury		SW846-7471A(B)
63 Mercury	EPA 245.1(A)	
64 Mercury	EPA 245.2(A)	
65 Nitrate-AA	SM174500-NO3F(N)	
66 Nitrate-IC	EPA 300(A)	
67 Nitrate-Nitrite	SM184500-NO3F(Q)	
68 Nitrate-Nitrite	LAC107041A(T)	
69 Nitrite	EPA 354.1(A)	
70 Nitrite	SM184500-NO2-B(Q)	
71 Odor	SM182150(Q7)	
72 Organochlorine PSTs		SW846-8081A(B)
73 Organochlorine PSTs	EPA 608(F)	
74 Paint Filter Test		SW846-9095A(B)
75 PCB's	EPA 508(H)	
76 Pesticides/PCB's		SW846-8082(B)
77 Pesticides/PCB's	95.3(Z)	95.3(Z)
78 Pesticides/PCB's	EPA 505(H)	
79 pH		SW846-9045C(B)
80 pH	SM184500-H-B(Q)	
81 Phenols		SW846-9065(B)
82 Phenols	EPA 420.A(A)	

126	83 Phenols	LAC210001A(S)	
127	84 Phosphate, Ortho	SM184500-PE(Q)	
128	85 Phosphate, Total	EPA 365.3(A)	
129	86 Propylene glycol	Modified 8015(B)	
130	87 Reactivity		SW846-7.3.2(B)
131	88 Selenium		SW846-7740(B,D)
132	89 Selenium	EPA 270.2(A,D)	
133	90 Selenium	SM183113B(Q)	
134	91 Semi-Volatiles		SW846-8270C(B)
	92 Semi-Volatiles	EPA 625(E)	
	93 Semi-volatiles	95.2(Z)	95.2(Z)
	94 Semi-Volatiles	EPA 525.1(H)	
	95 Specific Gravity		D1298-83
	96 Specific Conductance	SM182510B(Q)	
	97 SS	EPA 160.5(A)	
	98 Sulfate		EPA 375.4(A)
	99 Sulfate	EPA 375.4(A)	
	100 Sulfate	EPA 300(A)	
	101 Sulfide		SM184500-S2E(Q)
	102 Sulfide	SM184500-S2E(Q)	
	103 Sulfite	SM184500-SO3B(Q)	
	104 Sulfite		SM184500SO3B(Q)
	105 TCLP		SW846-1311(B)
	106 TDS	EPA 160.1(A)	
	107 TDS	SM182540C(Q)	
	108 Temperature	EPA 170.1(A)	
	109 Thallium		SW846-7841(B,D)
	110 Thallium	EPA 279.2(A,D)	
	111 Thallium	EPA 200.9(A)	
	112 Tin	EPA 282.2 (A)	
	113 TOC	SM185310-B(Q)	
	114 Total Kjeldahl Nitrogen	SM184500NH3-F(Q)	
	115 Total Kjeldahl Nitrogen	LAC107062D(V)	
	116 TOX		SW846-9020B(B)
	117 TPH	EPA 418.1(A)	
	118 TPH 310.13		LOAC 310.13(P)
	119 TPH-Calif.	Calif. DHS 8015	Calif. DHS 8015
	120 TS	EPA 160.3(A)	
	121 TSS	EPA 160.2(A)	
	122 Turbidity	SM182130-B(Q) and EPA 180.1(A)	
	123 Volatiles Organics		SW846-8260B(B)
	124 Volatiles Organics	EPA 624(E)	
	125 Volatiles Organics	EPA 524.2(H)	

References

A. "Metho

B. "Test M

C. Atomic

D. Atomic Ab

E. Federal

F. Federal

G. "Standa

H. "Metho

I. The Anal si

J. Volatile A

K. Volatile

L. Determin

M. "New Yo

N. "Standard

O. "ASTM, F

P. " Analytic

Q. "Standard

R. "Determin

10- 0

532

S. "Determina

126 Volatiles Organics	EPA 502.2(K)	
127 Volatiles Organics	EPA 504.1(H)	
128 Volatiles Organics		SW846-8021B(B)
129 Volatiles Organics	EPA 601(F)	
130 Volatiles Organics	EPA 602(F)	
131 Volatiles Organics	95.1(Z)	95.1(Z)
132 Volatiles Organics	95.4(Z)	95.4(Z)
133 Volatiles Organics	OLC02.1(AB)	
134 Volatiles Organics	OLM03.2(AC)	

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V. "Determination of Nitrogen, Total Kjeldahl by Flow Injection Analysis Colorimetry", QUIK CHEM Method 10-107-06-2-D, Kevin Switala, Revised October 7,1997, Lachat Instruments, Milwaukee, Wi. 53218.

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AA. "Analysis of Extractable Total Petroleum Hydrocarbons (ETPH) Using Methylene Chloride Gas Chromatograph/Flame Ionization Detection", Environmental Research Institute, University of Connecticut, March 1999.

AB. USEPA CLP SOW for Organics Analysis Low Concentration Water

AC. USEPA CLP SOW for Organics Analysis Multi-Media, Multi-Concentration

STL Edison
777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

208768

PAGE 1 OF 1

Name (for report and invoice) Paul Nadzan	Samplers Name (Printed)	Client ID: T710
Company STL Edison	P.O. #	State: NY
Address 777 New Durham Road	Analysis Turnaround Time Standard ☐	NYSDEC
City Edison / State NJ / Zip 08817	Rush Charges Authorized For: 2 Week ☐ 1 Week ☒ Other ☐	
Phone 732-549-3900 / Fax 732-549-3679		

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDIC

Sample Identification	Date	Time	Matrix	No. of. Cont.	NYSDOH 310-3								
T710-333051	2/15/02	11:00	AQ	1	X								
T710-333052	2/15/02	11:50	AQ	1	X								
T710-333053	2/15/02	11:45	AQ	1	X								

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____ Soil: Water:

Special Instructions: Please fax Results By 2/22/02

Water Metals Filtered (Yes/No)? _____

Relinquished by 1)	Company STL Edison	Date / Time 2/18/02 | 17:00	Received by 1) FED-EX	Company
Relinquished by 2) FED-EX	Company	Date / Time 2/19/02 9:00 am	Received by 2)	Company STL Newburgh
Subcontracted to: STL Newburgh 315 Fullerton Avenue Newburgh, NY 12550				3.5°C (cc)

000111

DATA REPORTING QUALIFIERS

Data qualifiers are used in the analytical report for organics and inorganics. The qualifiers are equivalent to those used by the USEPA in its Contract Laboratory Program.

ORGANIC QUALIFIERS

U - Indicates that the compound was analyzed for but not detected. The sample detection limit is corrected for dilution and percent moisture. This detection limit is not necessarily the instrument detection limit.

J - Indicates an estimated value. This qualifier is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicates the presence of a compound that meets the identification criteria and the result is less than the specified detection limit but greater than zero.

B - Indicates that the analyte was found in both the sample and its associated laboratory blank. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

C - This qualifier applies to pesticide parameters where the identification has been confirmed by gas chromatography/mass spectrometry.

E - This qualifier indicates compounds whose concentrations exceed the calibration range of the instrument for the specific analysis.

D - Indicates all compounds identified in an analysis at a secondary dilution factor.

DL - This suffix indicates a diluted sample and is appended to the sample number on the result form.

N - Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.

P - This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentration between the two GC columns (see Form X). The lower of the two values is reported on Form I and flagged with an "P".

A - This flag indicates that a TIC is a suspected aldol-condensation product.

RE - This suffix indicates a re-analyzed sample and is appended to the sample number on the result form.

STL Newburgh
315 Fullerton Avenue
Newburgh, NY 12550
Tel (845) 562-0890
Fax (845) 562-0841

RR - This suffix indicates a re-extracted and re-analyzed sample and is appended to the sample number on the result form.

INORGANICS

Concentration Qualifiers (C)

U - Indicates that the analyte was analyzed for but not detected.

B - The reported value is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit (IDL).

Quality Qualifiers (Q)

E - Indicates an estimated value because of the presence of interference.

M - Duplicate injection precision not met.

N - Spiked sample recovery not within control limits.

S - The reported value was determined by the Method of Standard Additions (MSA).

W - Post digestion spike for furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.

* - Duplicate analysis not within control limits.

+ - Correlation coefficient for the MSA is less than 0.995.

Method Qualifiers (M)

P - for ICP.
A - for Flame AA.
F - for Furnace AA.
PM - for ICP when Microwave Digestion is used.
AM - for Flame AA when Microwave Digestion is used.
FM - for Furnace AA when Microwave Digestion is used.
CV - for Manual Cold Vapor AA.
AV - for Automated Cold Vapor AA.
AS - for Semi-Automated Spectrophotometric
C - for Manual Spectrophotometric
T - for Titrimetric.
NR - if the analyte is not required to be analyzed.

3B
SOIL TPH BLANK SPIKE RECOVERY

Lab Name: STL Newburgh Client Name: STL-Edison

Matrix Spike - Client Sample No.: Oil Blank Spike

Matrix Spike - STE Sample No.: Oil Blank Spike

Instrument ID: GC#1

Date of Analysis: 2/21/2002

COMPOUND	SPIKE ADDED (mg/kg)	SAMPLE CONCENTRATION (mg/kg)	BS CONCENTRATION (mg/kg)	BS % REC	#	QC. LIMITS REC.
TPH	855.0	0.0	694.0	81		(46-124)

: Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Comments:

FORM III 768sbs 9/96

38

WATER TPH BLANK SPIKE RECOVERY

Lab Name: STL Newburgh Client Name: STL-Edison

Matrix Spike - Client Sample No.: 310 H20 Blank Spike

Matrix Spike - STE Sample No.: 310 H20 Blank Spike

Instrument ID: GC#1

Date of Analysis: 2/21/02

COMPOUND	SPIKE ADDED (uL/L)	SAMPLE CONCENTRATION (uL/L)	BS CONCENTRATION (uL/L)	BS % REC	#	QC. LIMITS REC.
TPH	1.0	0	0.59	59		(46-124)

Column to be used to flag recovery and RPD values with an asterisk

values outside of QC limits

Comments:

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Tel (845) 562-0890

3B

WATER TPH MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: STL Newburgh Client Name: STL-Edison

Matrix Spike - Client Sample No.: ZZZZZ

Matrix Spike - STL Sample No.: ZZZZZ

Instrument ID: GC#1

Date of Analysis: 2/21/02

COMPOUND	SPIKE ADDED (uL/L)	SAMPLE CONCENTRATION (uL/L)	MS CONCENTRATION (uL/L)	MS % REC	#	QC. LIMITS REC.
TPH	1.0	0.0	0.57	57		(46-124)

COMPOUND	SPIKE ADDED (uL/L)	MSD CONCENTRATION (uL/L)	MSD % REC	#	% RPD	#	QC LIMITS RPD	REC.
TPH	1.0	0.59	59		3		50	(46-124)

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Comments:

FORM III 9/96

4A

TPH METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

310 BLK SPK

Lab Name: STL Newburgh Contract:

Lab Code: 10142 Instrument ID: GC#1

Date Analyzed: Matrix: Water Method: 310.13

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID
01	BLK SPK	BLK SPK
02	ZZZZZ MS	ZZZZZ MS
03	ZZZZZ MSD	ZZZZZ MSD
04	T710-333052	208768-02
05	T710-333053	207768-03
06		
07		
08		
09		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		

COMMENTS:

FORM IV

LABORATORY TEST RESULTS

Job Number: 208768

Date: 03/18/2002

CUSTOMER: STL Edison PROJECT: T710 ATTN: Paul Nadzan

Customer Sample ID: T710-333051
Date Sampled.....: 02/15/2002
Time Sampled.....: 11:00
Sample Matrix.....: Oil

Laboratory Sample ID: 208768-1
Date Received.....: 02/19/2002
Time Received.....: 09:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
310.13	Fuel Oil #1	1000000	U		1000000	mg/Kg	02/20/02	ljc
310.13	Fuel Oil #2	1000000	U		1000000	mg/Kg	02/20/02	ljc
310.13	Fuel Oil #4	1400000			1000000	mg/Kg	02/20/02	ljc
310.13	Fuel Oil #6	1000000	U		1000000	mg/Kg	02/20/02	ljc
310.13	Gasoline	Not Present			N/A	mg/Kg	02/20/02	ljc
310.13	Lube Oil	Not Present			N/A	mg/Kg	02/20/02	ljc
310.13	Unknown Hydrocarbon	Not Present			N/A	mg/Kg	02/20/02	ljc

Description = Dry Wgt.

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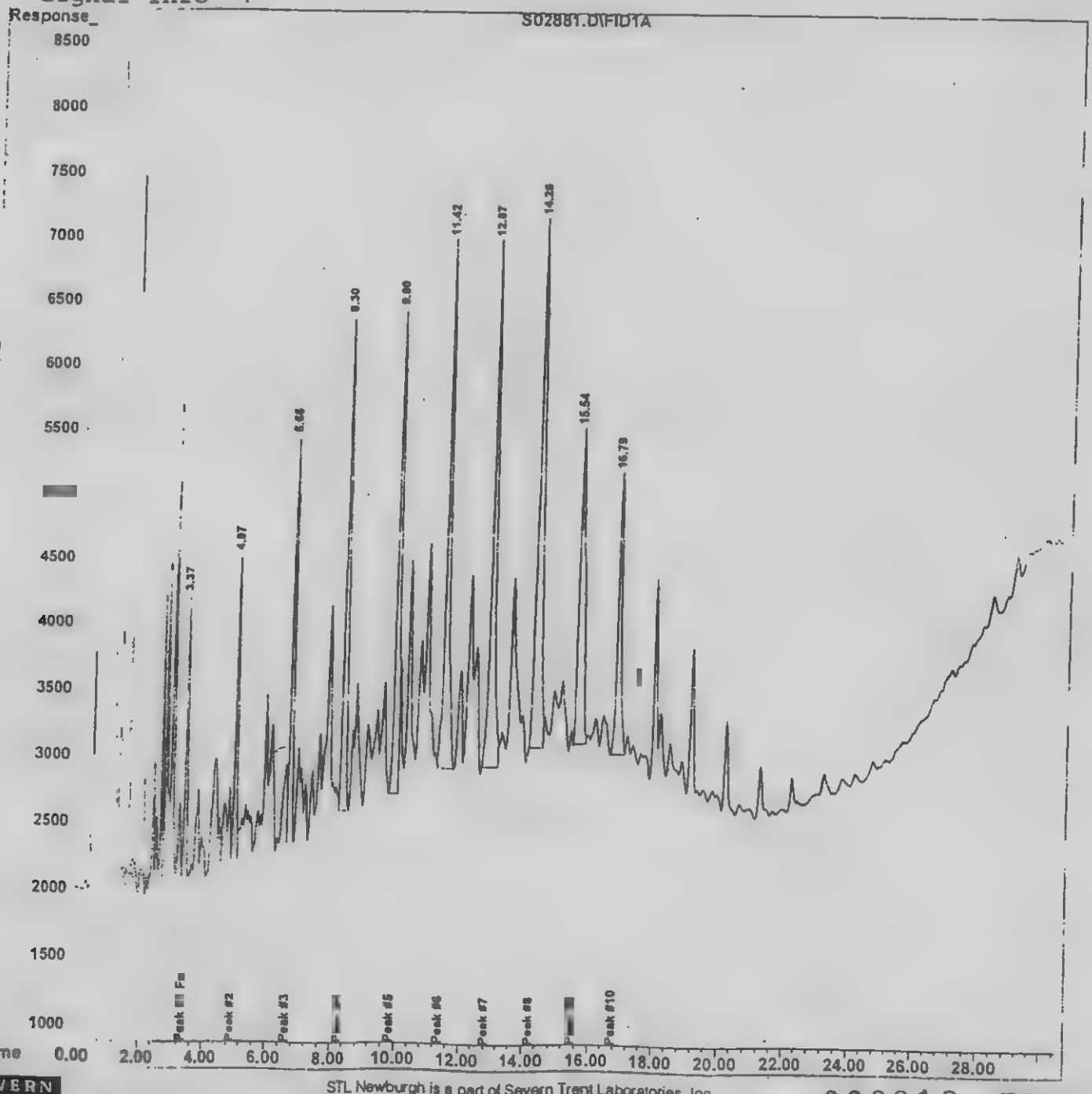
Quantitation Report

Data File : C:\HPCHEM\1\DATA\022002.B\S02881.D
Acq On : 25 Feb 2002 10:52 am
Sample : 208768-01 ~~X100~~ 1000 X 3/15/02
Misc :
IntFile : rteint.p
Quant Time: Feb 25 15:58 2002 Quant Results File: TPH310.RES

Vial: 53
Operator: L CERCONE
Inst : GC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\022002.B\S02881.D
Acq On : 25 Feb 2002 10:52 am
Sample : 208768-01 ~~X100~~ 1000X [initials] 3/15/02
Misc :
IntFile : rteint.p
Quant Time: Feb 25 15:58 2002 Quant Results File: TPH310.RES

Vial: 53
Operator: L CERCONE
Inst : GC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\022002.B\S02850.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound			R.T.	Response	Conc Units
Target Compounds					
1)	t	Peak #1 Fuel Oil #2	3.37	9642	0.226 mg/l
2)	t	Peak #2	4.97	11130	0.258 mg/l
3)	t	Peak #3	6.66	17501	0.227 mg/l
4)	t	Peak #4	8.30	24151	0.206 mg/l
5)	t	Peak #5	9.90	26626	0.294 mg/l
6)	t	Peak #6	11.42	32588	0.679 mg/l
7)	t	Peak #7	12.87	34502	0.359 mg/l
8)	t	Peak #8	14.26	39473	0.454 mg/l
9)	t	Peak #9	15.54	23852	0.597 mg/l
10)	t	Peak #10	16.79	18103	0.428 mg/l

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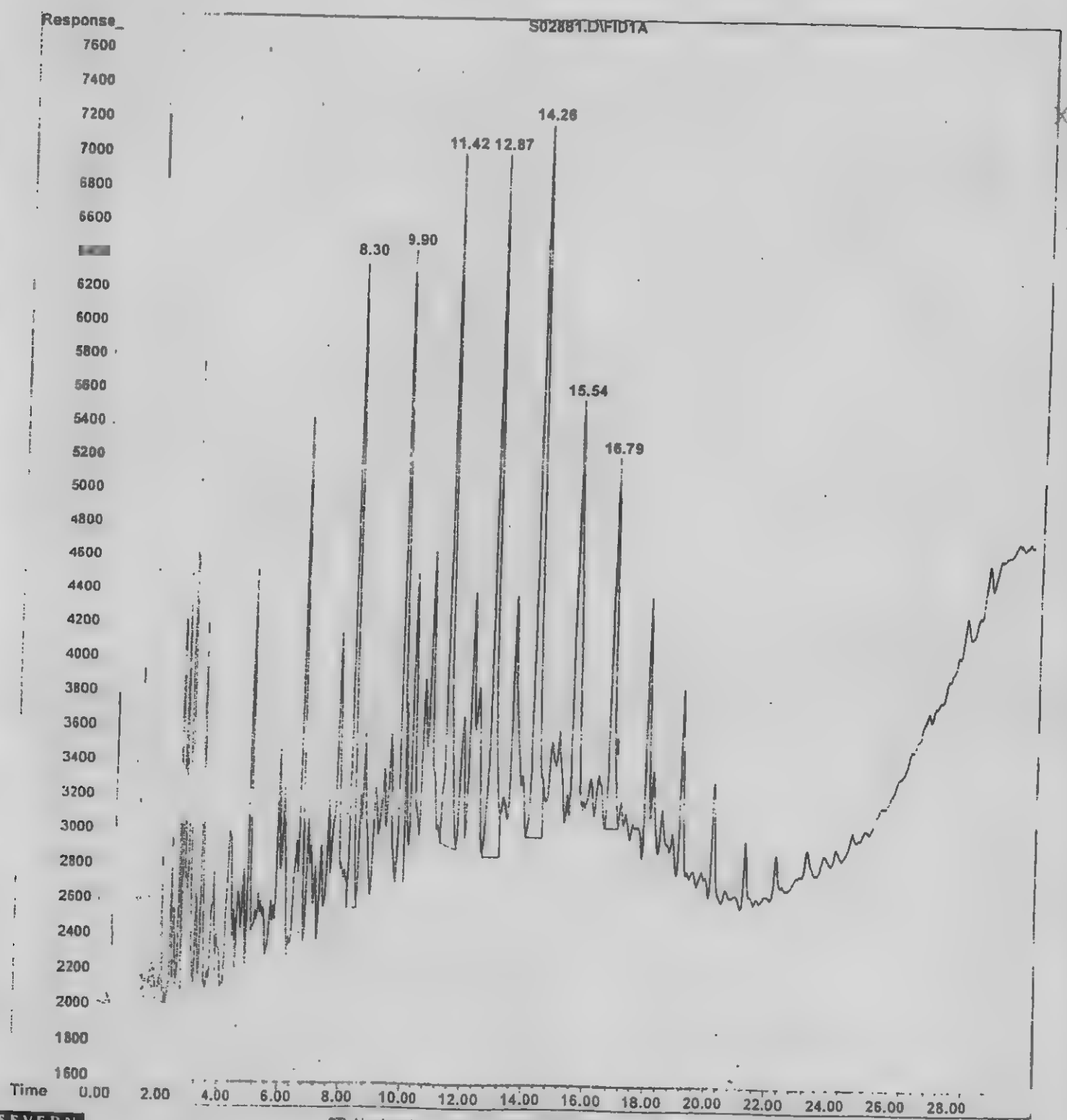
(f... elta > 1/2 Window (m)=manual int

S... Tue Feb 25 16:00:10 2002 RESI Page 1

File : C:\HPCHEM\1\DATA\022002.B\S02881.D
Operator : L CERCONE
Acquired : 25 Feb 2002 10:52 am using AcqMethod TPH310.M
Instrument : GC#1
Sample Name: 208768-01 ~~X100~~ 1000X AL 3/9/02
Misc Info :
Vial Number: 53



Area Percent Report

Data File : C:\HPCHEM\1\DATA\022002.B\S02881.D
Acq On : 25 Feb 2002 10:52 am
Sample : 208768-01 ~~X100~~ 1600X AL 3/15/02
Misc :
IntFile : rteint.p

Vial: 53
Operator: L CERCONE
Inst : GC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :

Signal : S02881.D\FID1A

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	8.300	8.157	8.463	rm	3812	25027	57.25%	11.971%
2	9.903	9.727	10.010	rm	3722	27610	63.16%	13.206%
3	11.423	11.213	11.740	rm	4079	32812	75.06%	15.694%
4	12.867	12.577	13.147	rm	4138	37457	85.68%	17.916%
5	14.257	13.980	14.530	rm	4197	43716	100.00%	20.910%
6	15.537	15.403	15.833	rm	2435	24096	55.12%	11.525%
7	16.787	16.607	17.013	rm	2176	18354	41.98%	8.779%

Sum of corrected areas: 209072

S02881.D TPH310.M Mon Feb 25 11:53:53 2002 PEST

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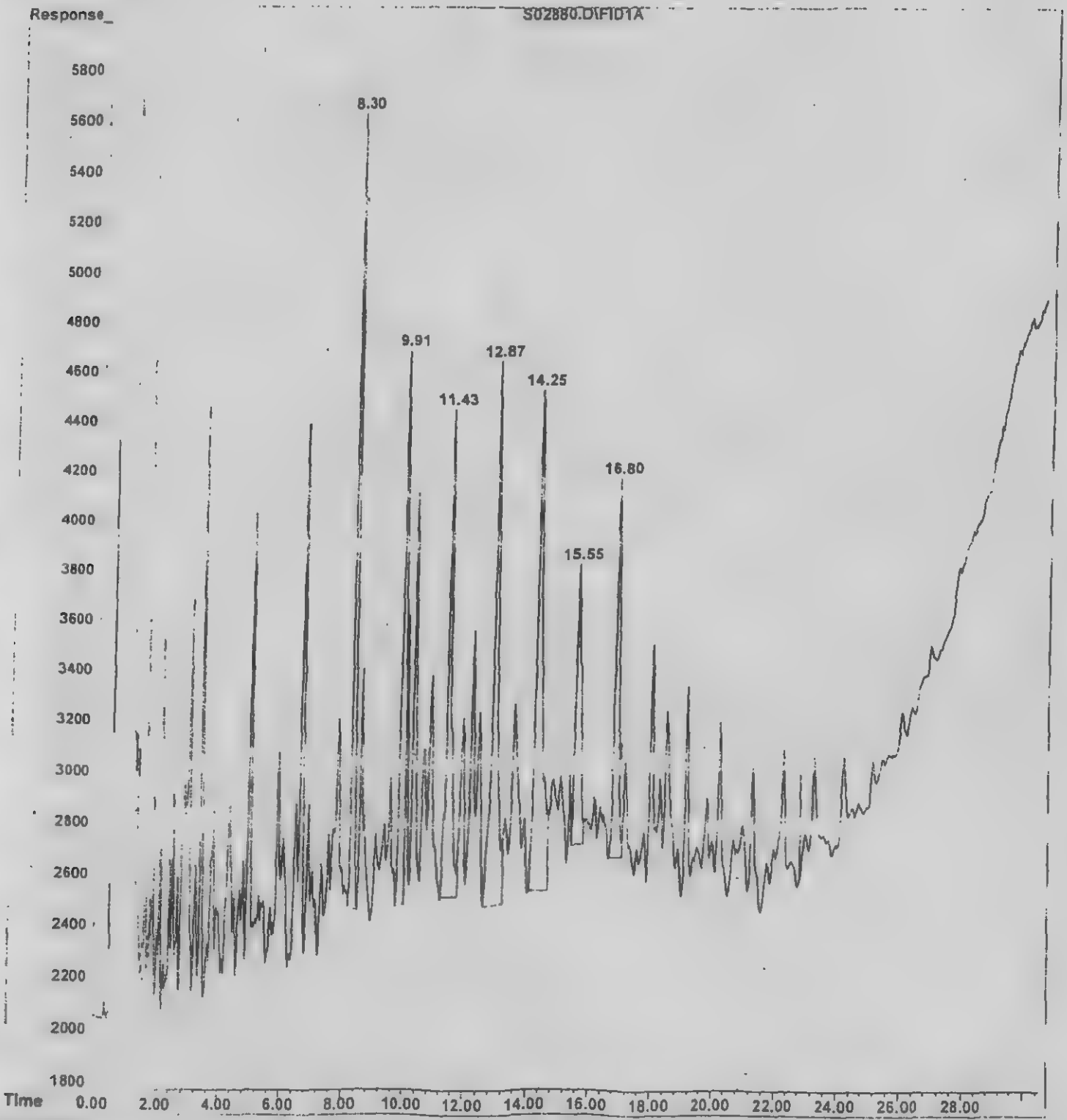
File : C:\HPCHEM\1\DATA\022002.B\S02880.D
Operator : L CERCONE
Acquired : 25 Feb 2002 10:16 am using AcqMethod TPH310.M
Instrument : GC#1
Sample Name: FUEL OIL #4
Misc Info :
Vial Number: 52



Area Percent Report

Data File : C:\HPCHEM\1\DATA\022002.B\S02880.D
Acq On : 25 Feb 2002 10:16 am
Sample : FUEL OIL #4
Misc :
IntFile : rteint.p

Vial: 52
Operator: L CERCONE
Inst : GC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :

Signal : S02880.D\FID1A

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	8.300	8.177	8.483	rm	3160	19358	71.82%	14.895%
2	9.907	9.740	10.010	rm	2207	16795	62.31%	12.923%
3	11.430	11.200	11.773	rm	1936	19172	71.13%	14.752%
4	12.873	12.587	13.200	rm	2164	23373	86.72%	17.984%
5	14.250	14.047	14.657	rm	1989	26952	100.00%	20.738%
6	15.550	15.403	15.777	rm	1108	11335	42.06%	8.722%
7	16.797	16.657	17.030	rm	1504	12978	48.15%	9.986%

Sum of corrected areas: 129963

S02880.D TPH310.M Mon Feb 25 11:52:47 2002 PEST

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LABORATORY TEST RESULTS

Job Number: 208768

Date: 02/22/2002

CUSTOMER: STL Edison PROJECT: T710 ATTN: Paul Nadzan

Customer Sample ID: T710-333052
Date Sampled.....: 02/15/2002
Time Sampled.....: 11:50
Sample Matrix.....: Water

Laboratory Sample ID: 208768-2
Date Received.....: 02/19/2002
Time Received.....: 09:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
310.13	Fuel Oil #1	0.1	U		0.1	uL/L	02/21/02	ljc
310.13	Fuel Oil #2	0.1	U		0.1	uL/L	02/21/02	ljc
310.13	Fuel Oil #4	0.3			0.1	uL/L	02/21/02	ljc
310.13	Fuel Oil #6	0.1	U		0.1	uL/L	02/21/02	ljc
310.13	Gasoline	NOT PRESENT					02/21/02	ljc
310.13	Lube Oil	NOT PRESENT					02/21/02	ljc
310.13	Unknown Hydrocarbon	NOT PRESENT					02/21/02	ljc

n Description = Dry Wgt.

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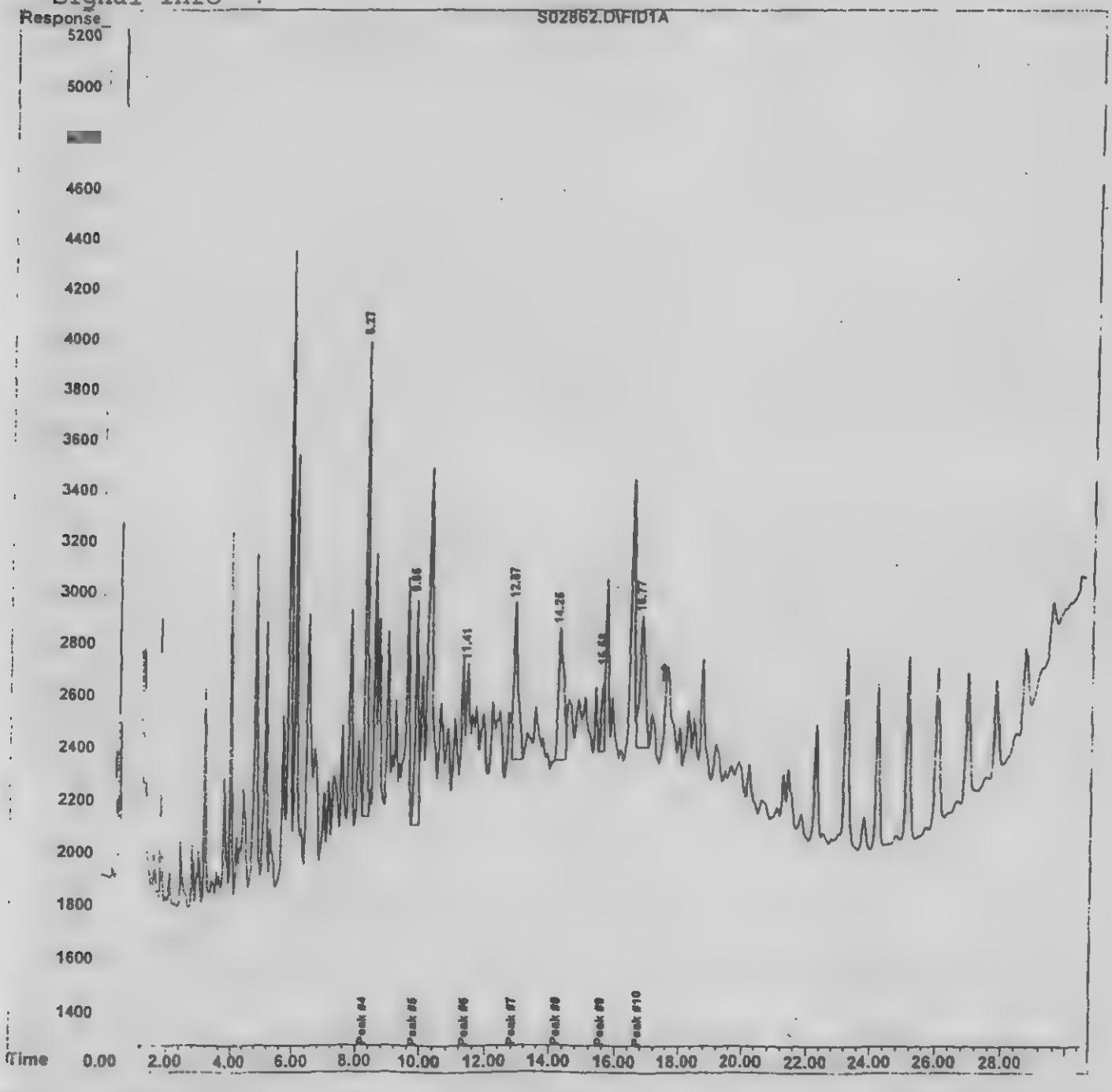
Quantitation Report

Data File : C:\HPCHEM\1\DATA\022002.B\S02862.D Vial: 37
Acq On : 21 Feb 2002 10:34 am Operator: L CERCONE
Sample : 208768-02 Inst : GC#1
Misc : T710-33305Z Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 21 13:23 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : C:\HPCHEM\1\DATA\022002.B\S02862.D Vial: 37
Acq On : 21 Feb 2002 10:34 am Operator: L CERCONE
Sample : 208768-02 Inst : GC#1
Misc : T710-333052 Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 21 13:23 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\022002.B\S02850.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1) t	Peak #1 Fuel Oil #2	0.00	0	N.D.	mg/l	
2) t	Peak #2	0.00	0	N.D.	mg/l	
3) t	Peak #3	0.00	0	N.D.	mg/l	
4) t	Peak #4	8.27	9847	0.084	mg/l	
5) t	Peak #5	9.85	5777	0.064	mg/l	
6) t	Peak #6	11.41	1408	0.029	mg/l	
7) t	Peak #7	12.87	5544	0.058	mg/l	
8) t	Peak #8	14.25	6046	0.070	mg/l	
9) t	Peak #9	15.58	1517	0.038	mg/l	m
10) t	Peak #10	16.77	5757	0.136	mg/l	

1

(f)=RT Delta > 1/2 Window (m)=manual int.

LABORATORY TEST RESULTS

Job Number: 208768

Date: 02/22/2002

CUSTOMER: STL Edison | PROJECT: T710 | ATTN: Paul Nadzan

Customer Sample ID: T710-333053
Date Sampled.....: 02/15/2002
Time Sampled.....: 11:45
Sample Matrix.....: Water

Laboratory Sample ID: 208768-3
Date Received.....: 02/19/2002
Time Received.....: 09:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
310.13	Fuel Oil #1	0.1	U		0.1	uL/L	02/21/02	ljc
310.13	Fuel Oil #2	0.1	U		0.1	uL/L	02/21/02	ljc
310.13	Fuel Oil #4	0.1	U		0.1	uL/L	02/21/02	ljc
310.13	Fuel Oil #6	0.1	U		0.1	uL/L	02/21/02	ljc
310.13	Gasoline	NOT PRESENT					02/21/02	ljc
310.13	Lube Oil	NOT PRESENT					02/21/02	ljc
310.13	Unknown Hydrocarbon	PRESENT					02/21/02	ljc

n Description = Dry Wgt.

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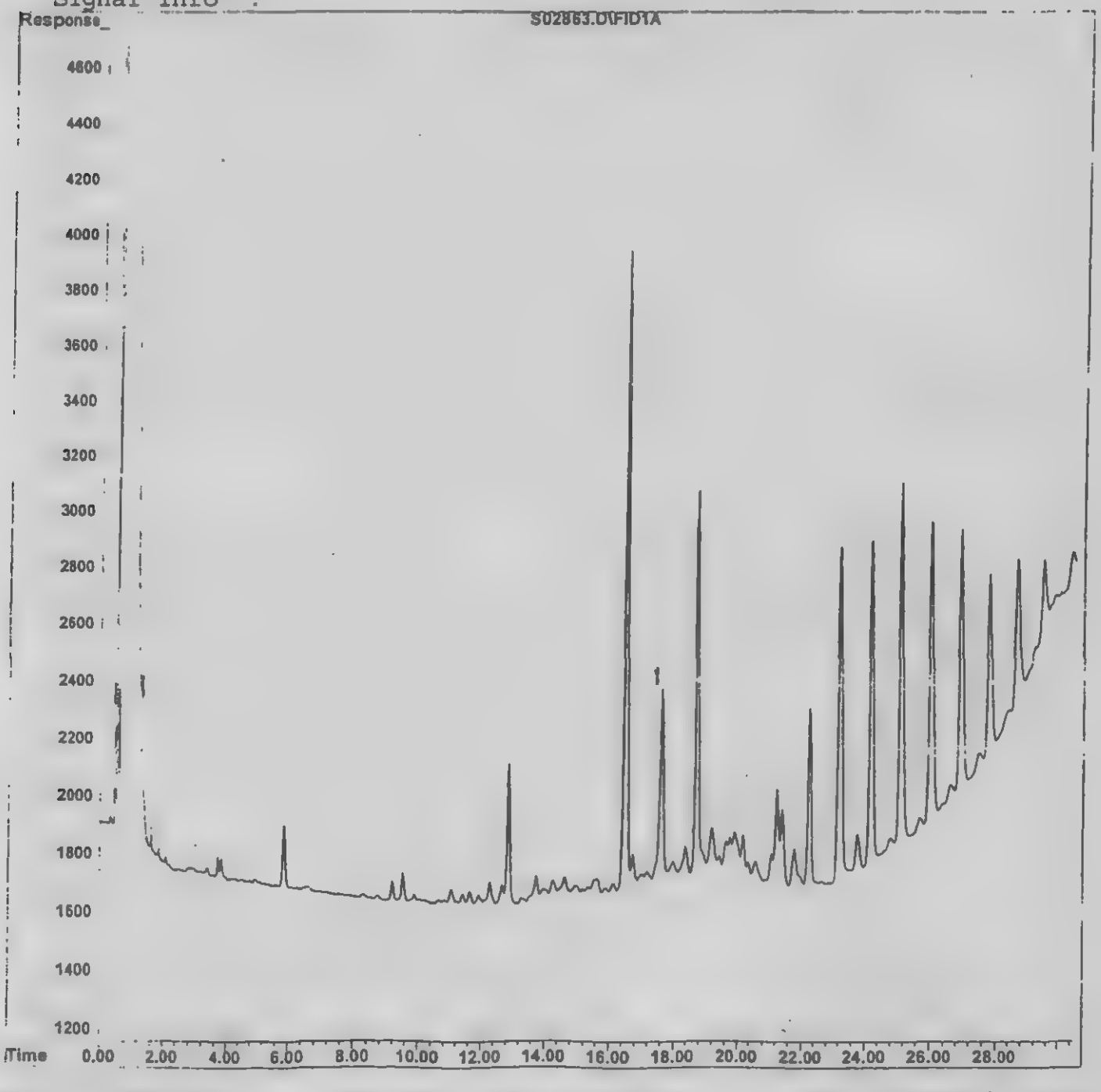
Quantitation Report

Data File : C:\HPCHEM\1\DATA\022002.B\S02863.D Vial: 38
Acq On : 21 Feb 2002 11:11 am Operator: L CERCONE
Sample : 208768-03 Inst : GC#1
Misc : T710-333053 Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 21 13:23 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\022002.B\S02863.D Vial: 38
Acq On : 21 Feb 2002 11:11 am Operator: L CERCONE
Sample : 208768-03 Inst : GC#1
Misc : T710-333053 Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 21 13:23 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\022002.B\S02850.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1) t	Peak #1 Fuel Oil #2	0.00	0	N.D.	mg/l	
2) t	Peak #2	0.00	0	N.D.	mg/l	
3) t	Peak #3	0.00	0	N.D.	mg/l	
4) t	Peak #4	0.00	0	N.D.	mg/l	
5) t	Peak #5	0.00	0	N.D.	mg/l	
6) t	Peak #6	0.00	0	N.D.	mg/l	
7) t	Peak #7	0.00	0	N.D.	mg/l	d
8) t	Peak #8	0.00	0	N.D.	mg/l	
9) t	Peak #9	0.00	0	N.D.	mg/l	
10) t	Peak #10	0.00	0	N.D.	mg/l	d

000030

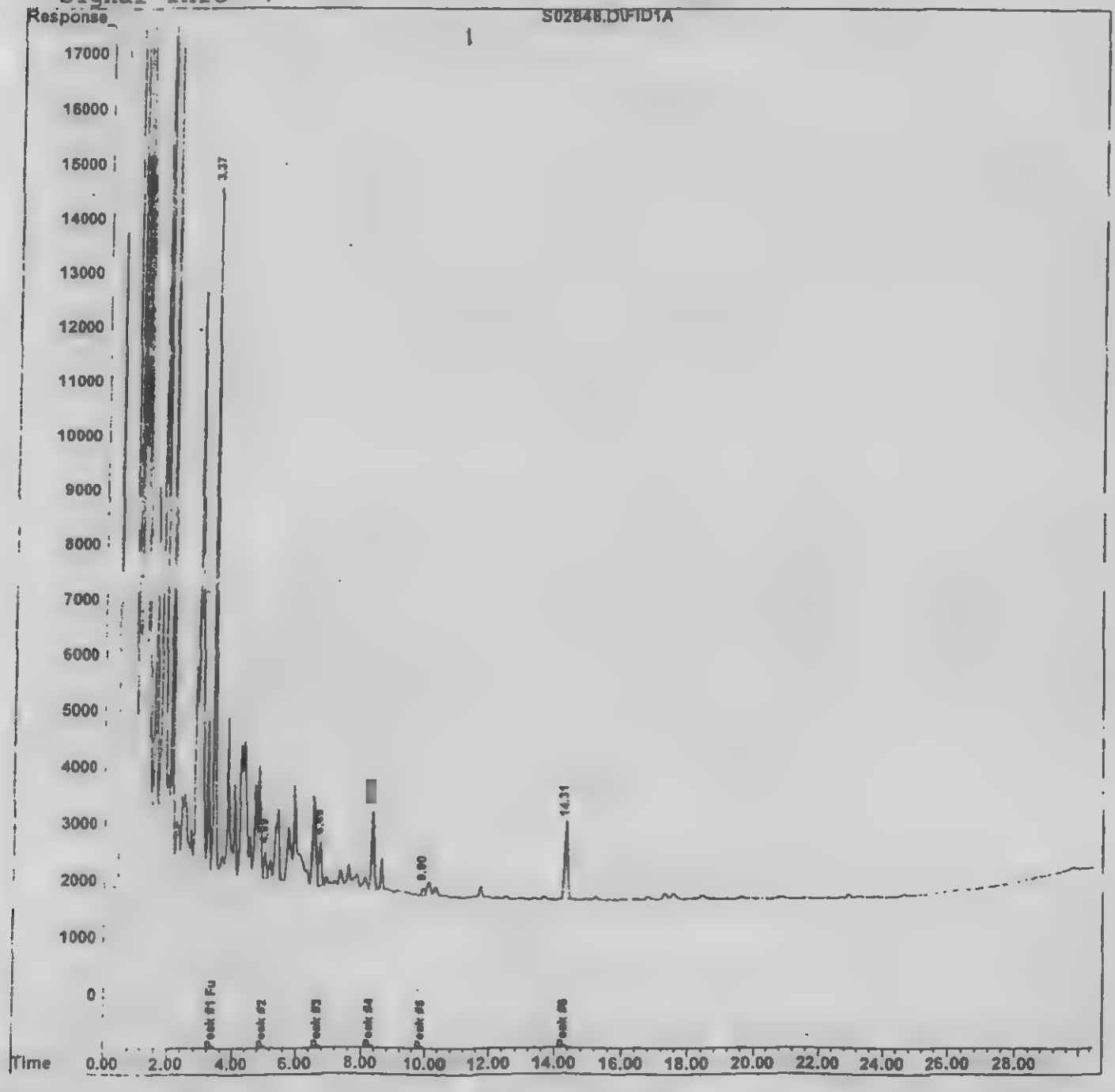
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\022002.B\S02848.D Vial: 1
Acq On : 20 Feb 2002 7:02 pm Operator: L CERCONE
Sample : GASOLINE Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 21 13:13 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb.19 13:25:57 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



000031

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\022002.B\S02848.D Vial: 1
Acq On : 20 Feb 2002 7:02 pm Operator: L CERCONE
Sample : GASOLINE Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 21 13:13 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\022002.B\S02850.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

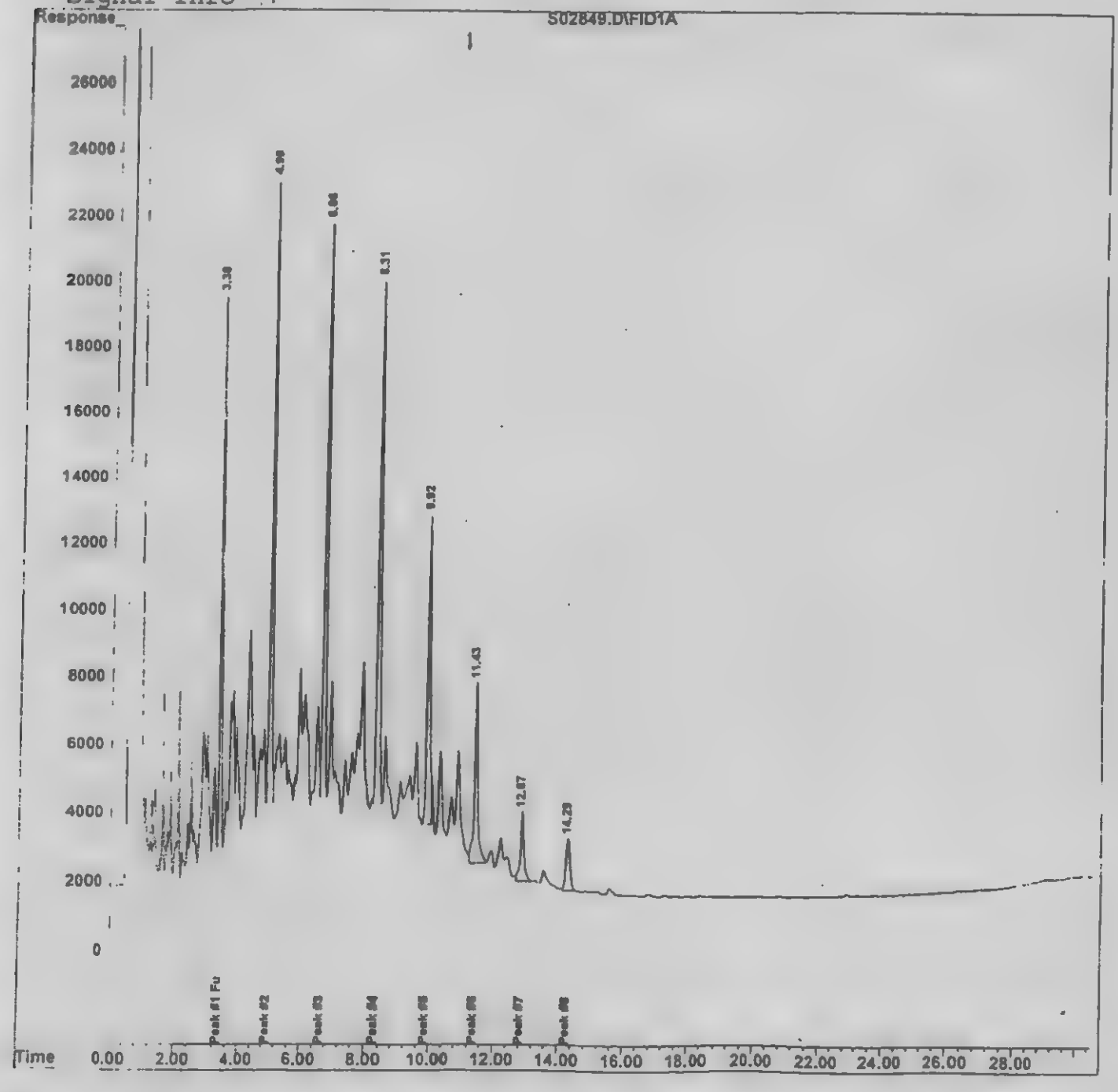
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1) t	Peak #1 Fuel Oil #2	3.37	49409	1.159	mg/l	
2) t	Peak #2	4.99	2756	0.064	mg/l	
3) t	Peak #3	6.69	5107	0.066	mg/l	
4) t	Peak #4	8.30	7353	0.063	mg/l	
5) t	Peak #5	9.90	919	0.010	mg/l	
6) t	Peak #6	0.00	0	N.D.	mg/l	d
7) t	Peak #7	0.00	0	N.D.	mg/l	
8) t	Peak #8	14.31	9331	0.107	mg/l	
9) t	Peak #9	0.00	0	N.D.	mg/l	
10) t	Peak #10	0.00	0	N.D.	mg/l	

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File : C:\HPCHEM\1\DATA\022002.B\S02849.D Vial: 2
Acq On : 20 Feb 2002 7:38 pm Operator: L CERCONE
Sample : FUEL OIL #1 Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 21 13:16 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\022002.B\S02849.D Vial: 2
Acq On : 20 Feb 2002 7:38 pm Operator: L CERCONE
Sample : FUEL OIL #1 Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 21 13:16 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\022002.B\S02850.D
DataAcq Meth : TPH310.M

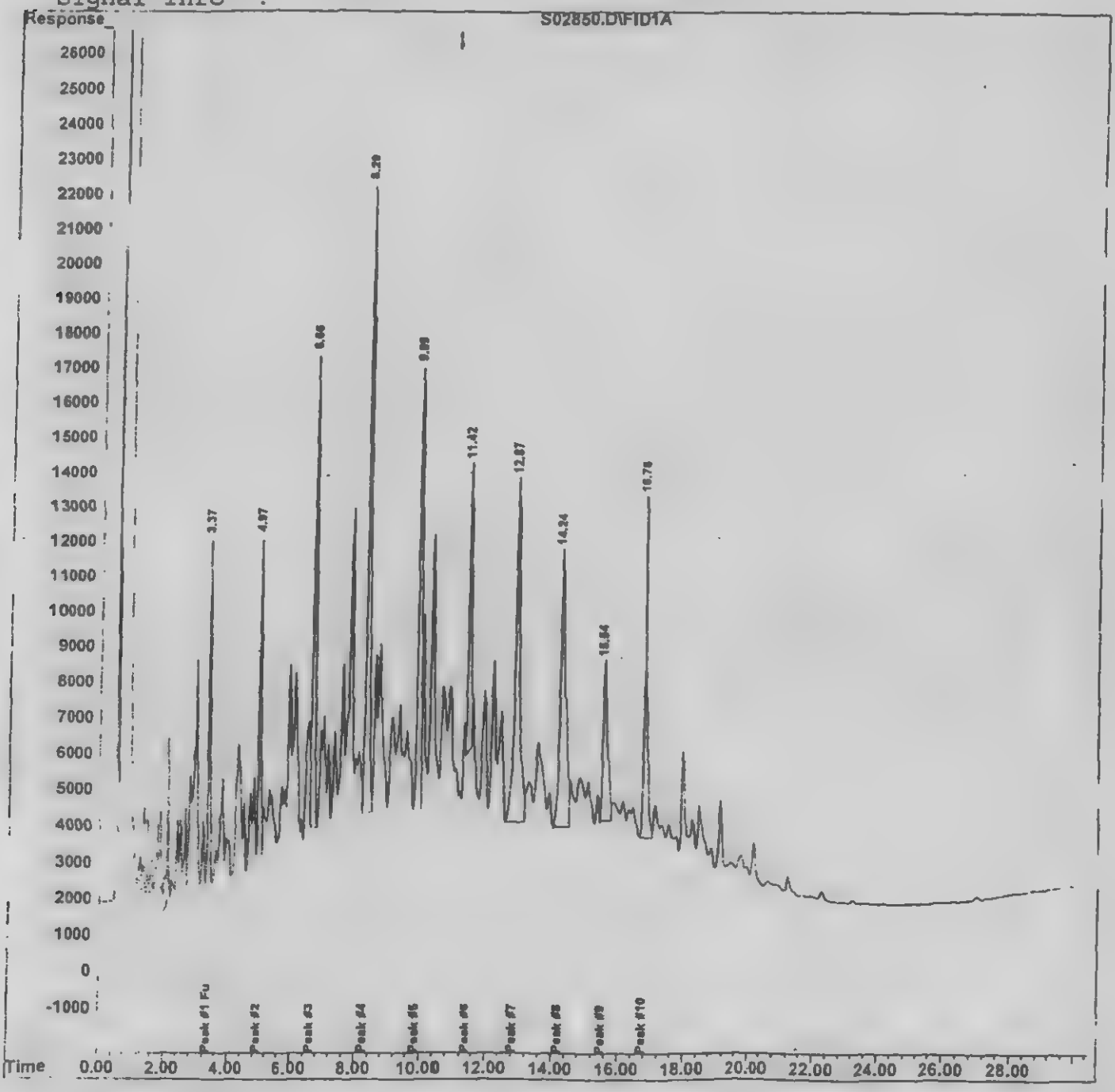
Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1) t	Peak #1 Fuel Oil #2	3.38	71786	1.684	mg/l	
2) t	Peak #2	4.98	93810	2.174	mg/l	
3) t	Peak #3	6.66	92469	1.201	mg/l	
4) t	Peak #4	8.31	94425	0.806	mg/l	
5) t	Peak #5	9.92	58918	0.650	mg/l	
6) t	Peak #6	11.43	41670	0.868	mg/l	
7) t	Peak #7	12.87	16667	0.173	mg/l	
8) t	Peak #8	14.29	13040	0.150	mg/l	
9) t	Peak #9	0.00	0	N.D.	mg/l	d
10) t	Peak #10	0.00	0	N.D.	mg/l	d

Data File : C:\HPCHEM\1\DATA\022002.B\S02850.D Vial: 3
Acq On : 20 Feb 2002 8:15 pm Operator: L CERCONE
Sample : FUEL OIL #2 Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 21 13:12 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\022002.B\S02850.D Vial: 3
Acq On : 20 Feb 2002 8:15 pm Operator: L CERCONE
Sample : FUEL OIL #2 Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 21 13:12 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\021902.B\S02812.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
Target Compounds				
1) t	Peak #1 Fuel Oil #2	3.37	42617	1.115 mg/l
2) t	Peak #2	4.97	43155	1.137 mg/l
3) t	Peak #3	6.66	77008	1.129 mg/l
4) t	Peak #4	8.29	117218	1.193 mg/l
5) t	Peak #5	9.89	90629	1.133 mg/l
6) t	Peak #6	11.42	48020	0.691 mg/l
7) t	Peak #7	12.87	96083	1.130 mg/l
8) t	Peak #8	14.24	86979	1.134 mg/l
9) t	Peak #9	15.54	39920	1.120 mg/l
10) t	Peak #10	16.78	42276	1.211 mg/l m

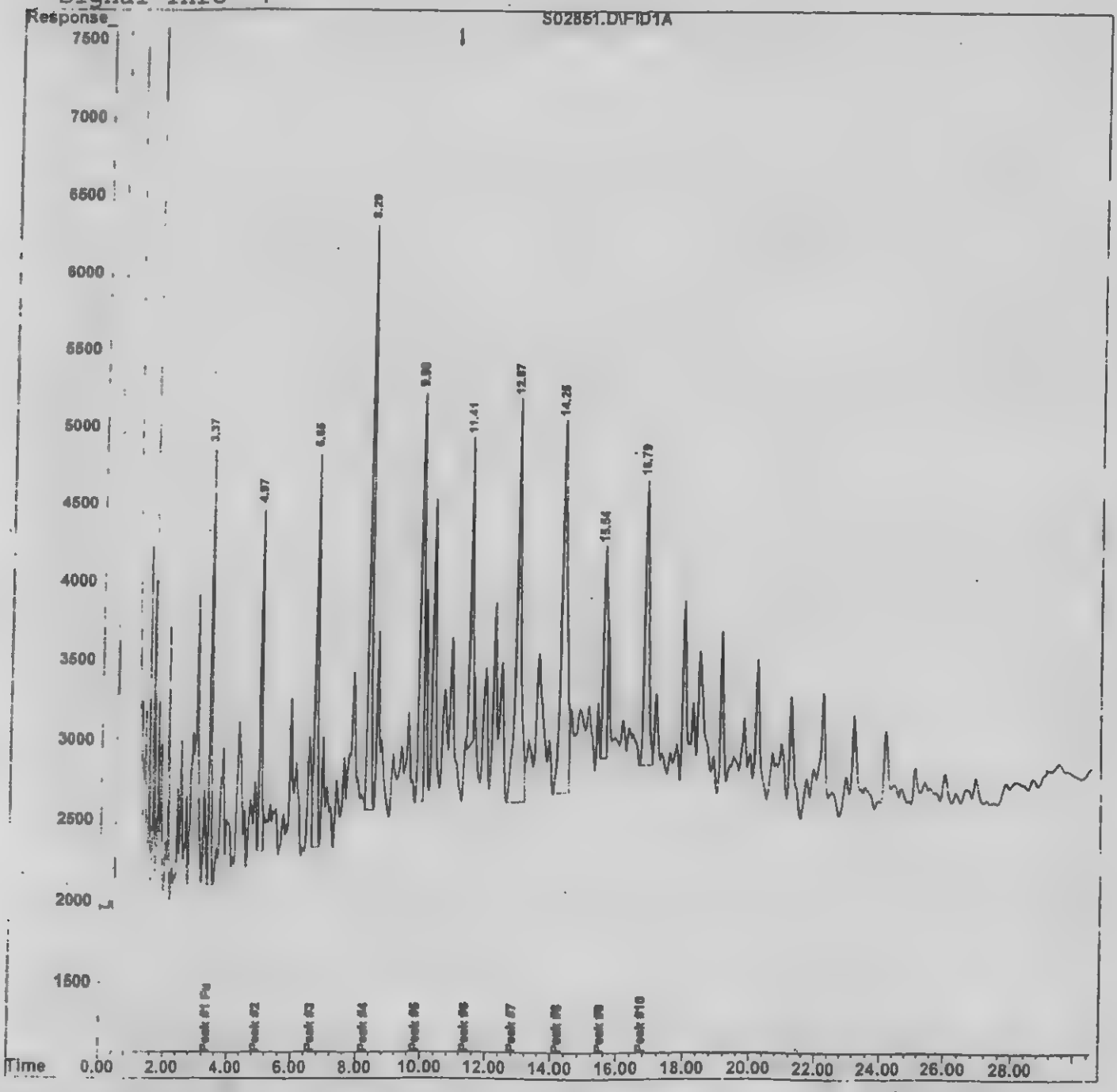
Quantitation Report

Data File : C:\HPCHEM\1\DATA\022002.B\S02851.D
Acq On : 20 Feb 2002 8:52 pm
Sample : FUEL OIL #4
Misc :
IntFile : rteint.p
Quant Time: Feb 21 13:16 2002 Quant Results File: TPH310.RES

Vial: 4
Operator: L CERCONE
Inst : GC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\022002.B\S02851.D Vial: 4
Acq On : 20 Feb 2002 8:52 pm Operator: L CERCONE
Sample : FUEL OIL #4 Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 21 13:16 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\022002.B\S02850.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1) t	Peak #1 Fuel Oil #2	3.37	12305	0.289	mg/l
2) t	Peak #2	4.97	10622	0.246	mg/l
3) t	Peak #3	6.65	14196	0.184	mg/l
4) t	Peak #4	8.29	22781	0.194	mg/l
5) t	Peak #5	9.90	18057	0.199	mg/l
6) t	Peak #6	11.41	11665	0.243	mg/l
7) t	Peak #7	12.87	25728	0.268	mg/l
8) t	Peak #8	14.25	27386	0.315	mg/l
9) t	Peak #9	15.54	9378	0.235	mg/l
10) t	Peak #10	16.79	15542	0.368	mg/l

000038

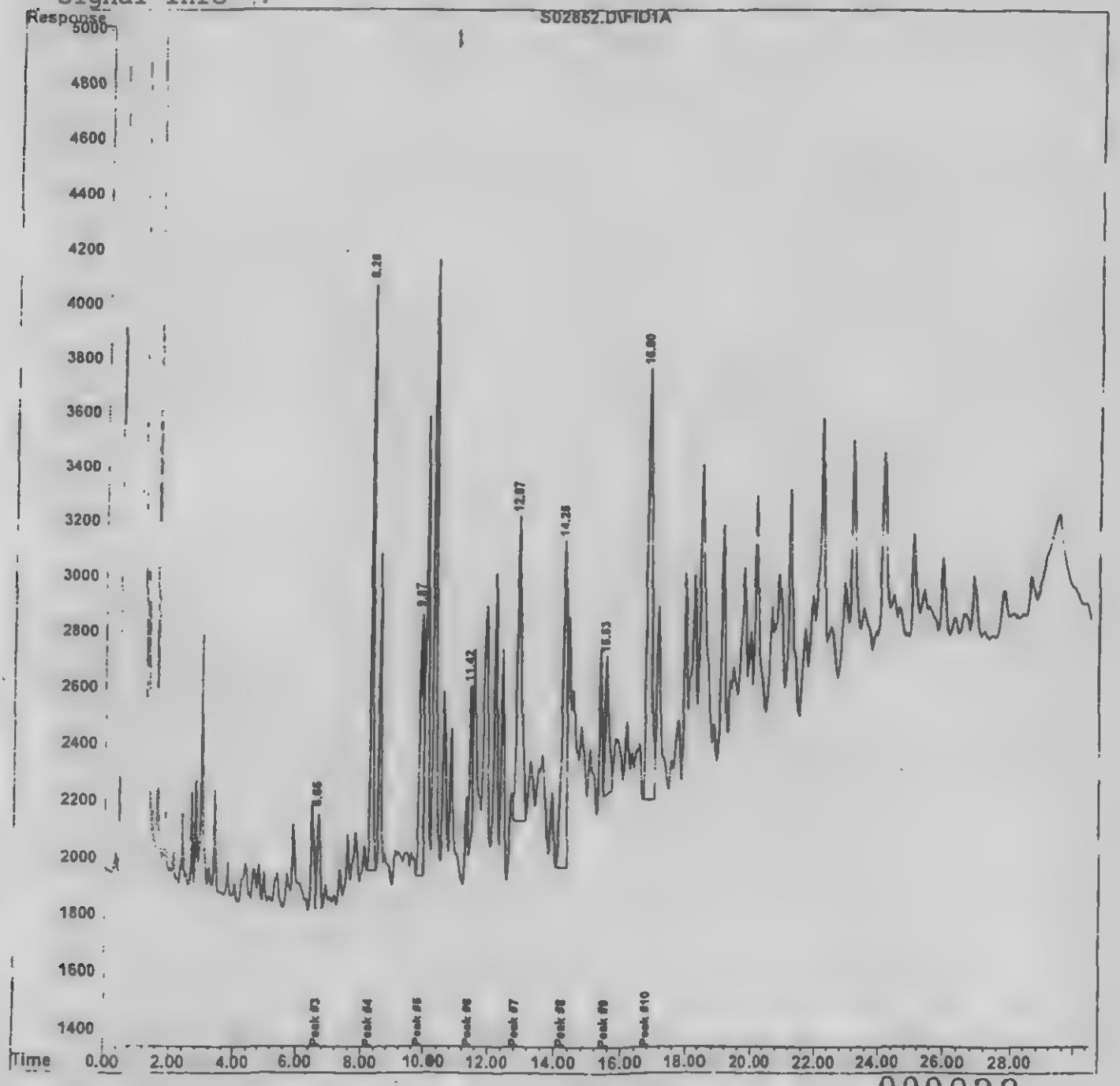
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\022002.B\S02852.D Vial: 5
Acq On : 20 Feb 2002 9:29 pm Operator: L CERCONE
Sample : FUEL OIL #6 Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 21 13:17 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\022002.B\S02852.D
Acq On : 20 Feb 2002 9:29 pm
Sample : FUEL OIL #6
Misc :
IntFile : rteint.p
Quant Time: Feb 21 13:17 2002 Quant Results File: TPH310.RES

Vial: 5
Operator: L CERCONE
Inst : GC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\022002.B\S02850.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

		Compound	R.T.	Response	Conc	Units	
Target Compounds							
1)	t	Peak #1 Fuel Oil #2	0.00	0	N.D.	mg/l	d
2)	t	Peak #2	0.00	0	N.D.	mg/l	
3)	t	Peak #3	6.66	2146	0.028	mg/l	
4)	t	Peak #4	8.28	11113	0.095	mg/l	
5)	t	Peak #5	9.87	6523	0.072	mg/l	
6)	t	Peak #6	11.42	3121	0.065	mg/l	
7)	t	Peak #7	12.87	9928	0.103	mg/l	
8)	t	Peak #8	14.25	10809	0.124	mg/l	
9)	t	Peak #9	15.53	3772	0.094	mg/l	
10)	t	Peak #10	16.80	14721	0.348	mg/l	

000040

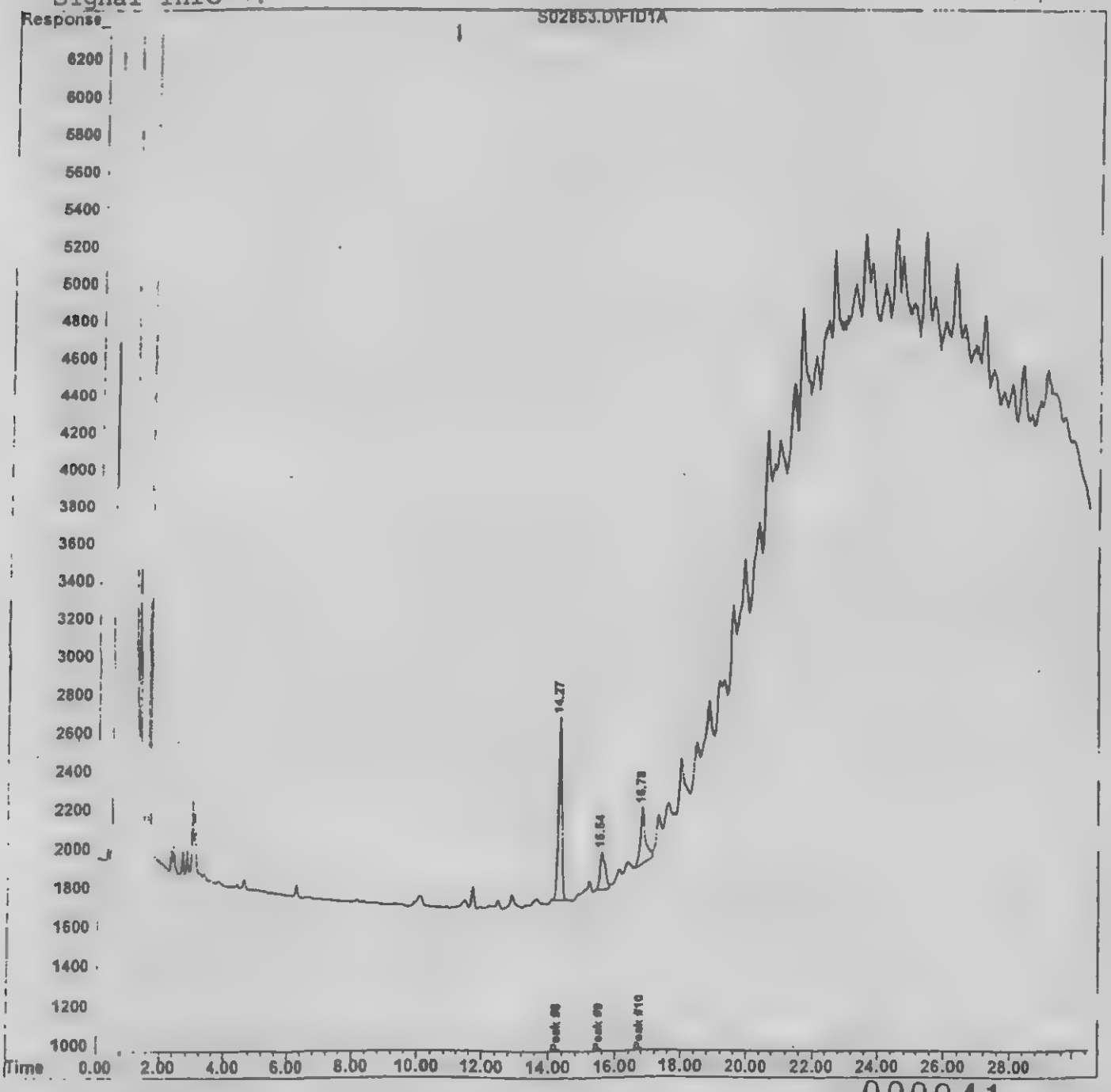
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\022002.B\S02853.D Vial: 6
Acq On : 20 Feb 2002 10:06 pm Operator: L CERCONE
Sample : LUBE OIL Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 21 13:18 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\022002.B\S02853.D
Acq On : 20 Feb 2002 10:06 pm
Sample : LUBE OIL
Misc :
IntFile : rteint.p
Quant Time: Feb 21 13:18 2002 Quant Results File: TPH310.RES

Vial: 6
Operator: L CERCONE
Inst : GC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\022002.B\S02850.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1) t	Peak #1 Fuel Oil #2	0.00	0	N.D.	mg/l	
2) t	Peak #2	0.00	0	N.D.	mg/l	
3) t	Peak #3	0.00	0	N.D.	mg/l	
4) t	Peak #4	0.00	0	N.D.	mg/l	
5) t	Peak #5	0.00	0	N.D.	mg/l	
6) t	Peak #6	0.00	0	N.D.	mg/l	d
7) t	Peak #7	0.00	0	N.D.	mg/l	
8) t	Peak #8	14.27	7009	0.081	mg/l	
9) t	Peak #9	15.54	2167	0.054	mg/l	
10) t	Peak #10	16.78	3330	0.079	mg/l	m

000042

(f)=RT Delta > 1/2 Window (m)=manual int.

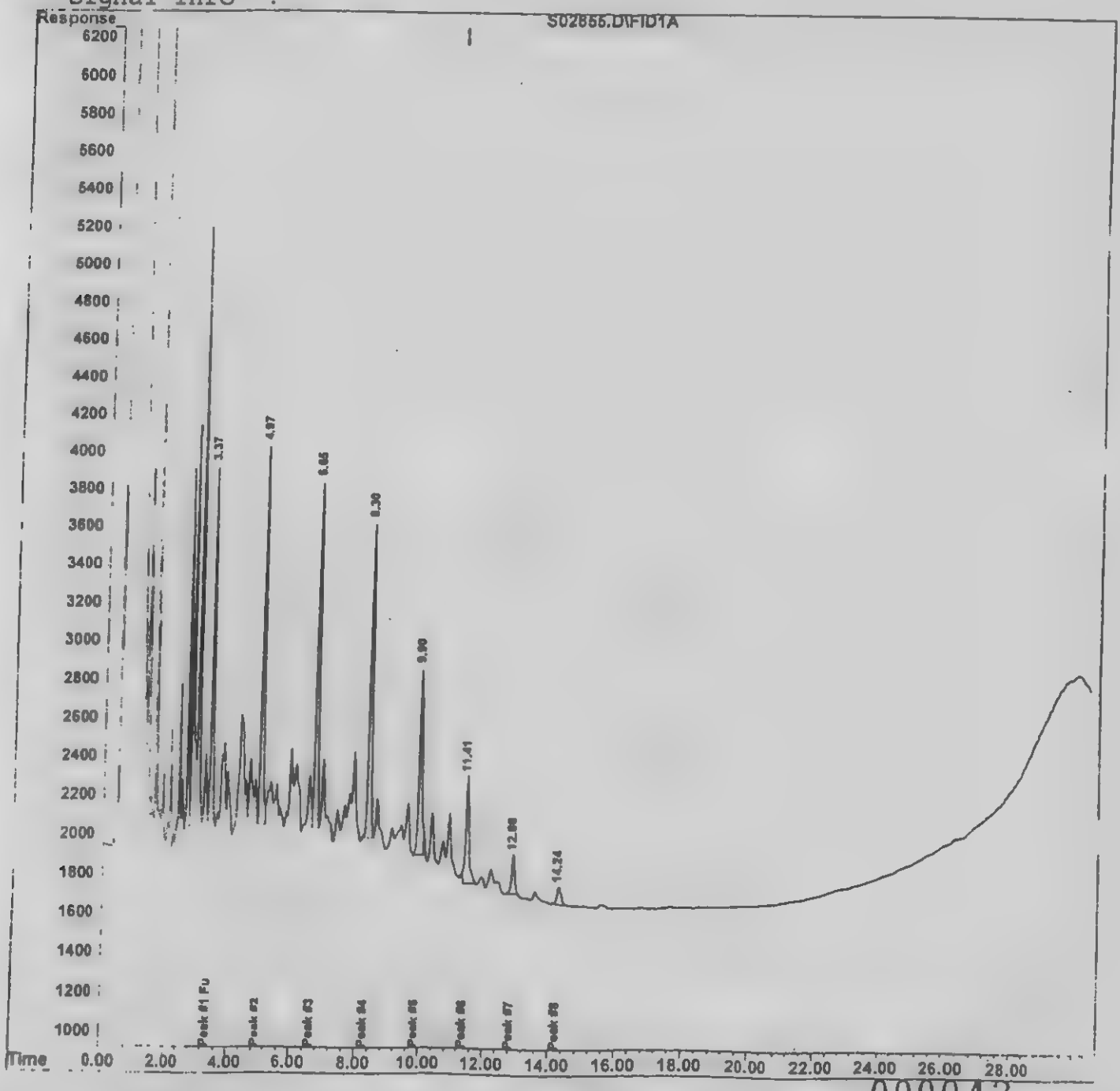
Quantitation Report

Data File : C:\HPCHEM\1\DATA\022002.B\S02855.D
Acq On : 20 Feb 2002 11:20 pm
Sample : FUEL OIL #1 0.1
Misc :
IntFile : rteint.p
Quant Time: Feb 21 13:19 2002 Quant Results File: TPH310.RES

Vial: 31
Operator: L CERCONE
Inst : GC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\022002.B\S02855.D Vial: 31
Acq On : 20 Feb 2002 11:20 pm Operator: L CERCONE
Sample : FUEL OIL #1 0.1 Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 21 13:19 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\022002.B\S02850.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1) t	Peak #1 Fuel Oil #2	3.37	8652	0.203	mg/l	
2) t	Peak #2	4.97	9981	0.231	mg/l	
3) t	Peak #3	6.65	9641	0.125	mg/l	
4) t	Peak #4	8.30	9834	0.084	mg/l	
5) t	Peak #5	9.90	6173	0.068	mg/l	
6) t	Peak #6	11.41	4102	0.085	mg/l	
7) t	Peak #7	12.86	1398	0.015	mg/l	
8) t	Peak #8	14.24	853	0.010	mg/l	m
9) t	Peak #9	0.00	0	N.D.	mg/l	
10) t	Peak #10	0.00	0	N.D.	mg/l	

Actual = 0.10
Obs = 0.105

000044

(f)=RT Delta > 1/2 Window (m)=manual int.

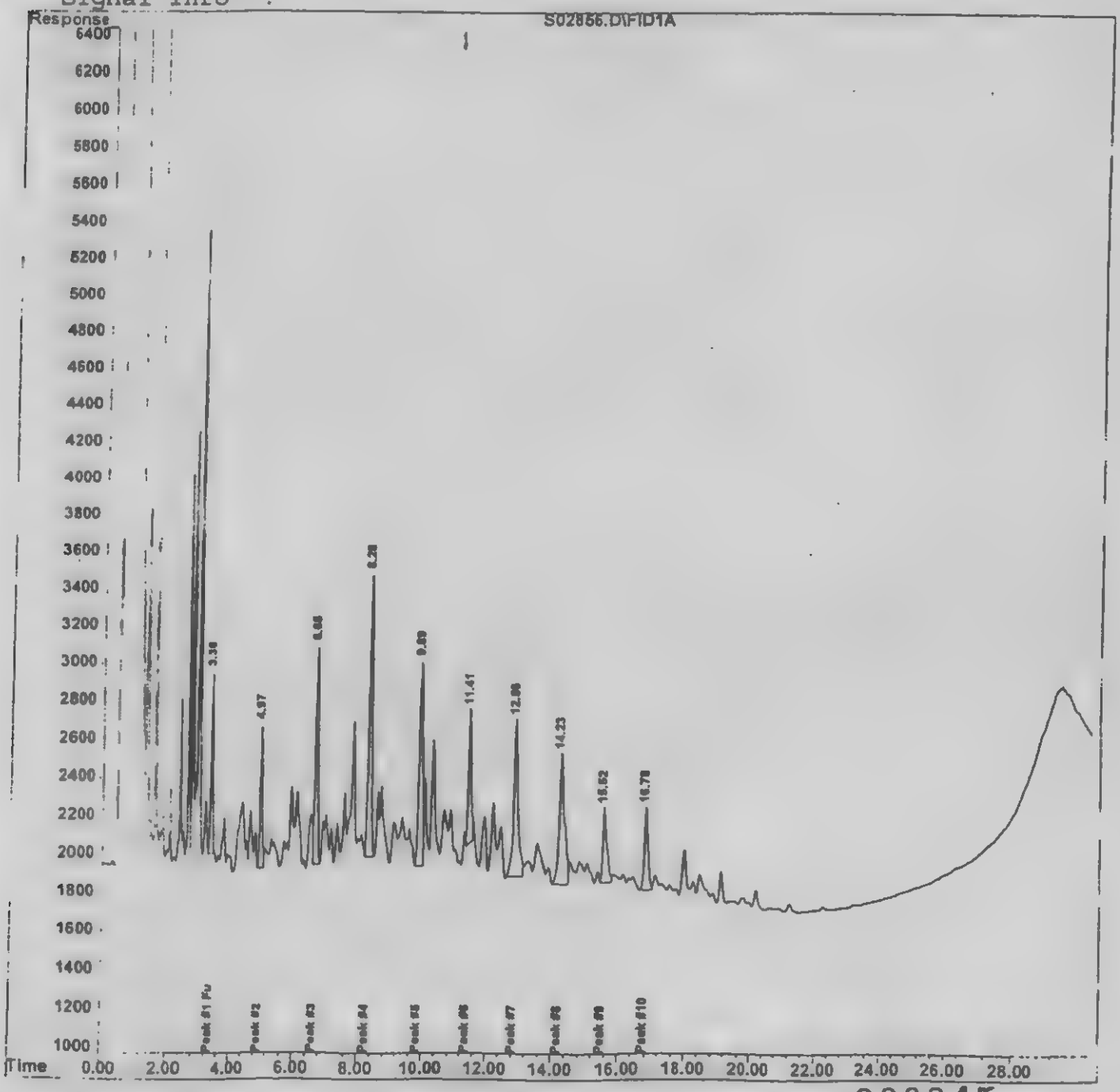
Quantitation Report

Data File : C:\HPCHEM\1\DATA\022002.B\S02856.D
Acq On : 20 Feb 2002 11:57 pm
Sample : FUEL OIL #2 0.1
Misc :
IntFile : rteint.p
Quant Time: Feb 21 13:19 2002 Quant Results File: TPH310.RES

Vial: 32
Operator: L CERCONE
Inst : GC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\022002.B\S02856.D Vial: 32
Acq On : 20 Feb 2002 11:57 pm Operator: L CERCONE
Sample : FUEL OIL #2 0.1 Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 21 13:19 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\022002.B\S02850.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) t Peak #1 Fuel Oil #2	3.36	4527	0.106 mg/l
2) t Peak #2	4.97	3590	0.083 mg/l
3) t Peak #3	6.65	6593	0.086 mg/l
4) t Peak #4	8.28	9342	0.080 mg/l
5) t Peak #5	9.89	7798	0.086 mg/l
6) t Peak #6	11.41	4257	0.089 mg/l
7) t Peak #7	12.86	7888	0.082 mg/l
8) t Peak #8	14.23	7638	0.088 mg/l
9) t Peak #9	15.52	3582	0.090 mg/l m
10) t Peak #10	16.78	3568	0.084 mg/l

Act: 0.1 µl/L
Obs - 0.086

000046

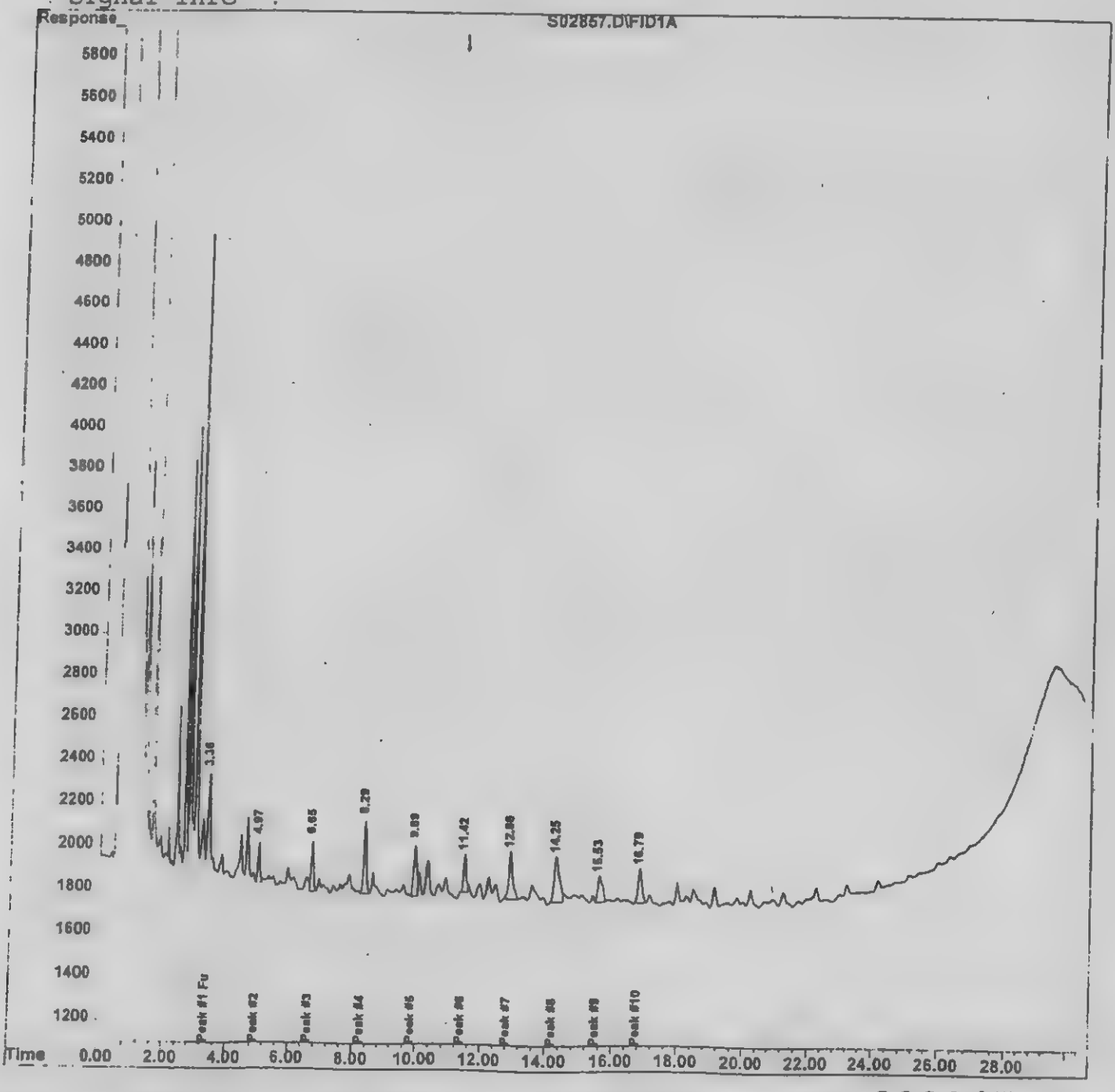
(f)=RT Delta > 1/2 Window (m)=manual int.

Data File : C:\HPCHEM\1\DATA\022002.B\S02857.D
Acq On : 21 Feb 2002 12:33 am
Sample : FUEL OIL #4 0.1
Misc :
IntFile : rteint.p
Quant Time: Feb 21 13:20 2002 Quant Results File: TPH310.RES

Vial: 33
Operator: L CERCONE
Inst : GC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : C:\HPCHEM\1\DATA\022002.B\S02857.D
Acq On : 21 Feb 2002 12:33 am
Sample : FUEL OIL #4 0.1
Misc :
IntFile : rteint.p
Quant Time: Feb 21 13:20 2002 Quant Results File: TPH310.RES

Vial: 33
Operator: L CERCONE
Inst : GC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\022002.B\S02850.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	Target Compounds			
1)	t Peak #1 Fuel Oil #2	3.36	2170	0.051 mg/l
2)	t Peak #2	4.97	910	0.021 mg/l
3)	t Peak #3	6.65	1336	0.017 mg/l
4)	t Peak #4	8.29	2048	0.017 mg/l
5)	t Peak #5	9.89	1626	0.018 mg/l
6)	t Peak #6	11.42	1085	0.023 mg/l
7)	t Peak #7	12.86	1914	0.020 mg/l
8)	t Peak #8	14.25	2277	0.026 mg/l
9)	t Peak #9	15.53	1301	0.033 mg/l m
10)	t Peak #10	16.79	1333	0.032 mg/l

Actual = 0.1
Obs = 0.095

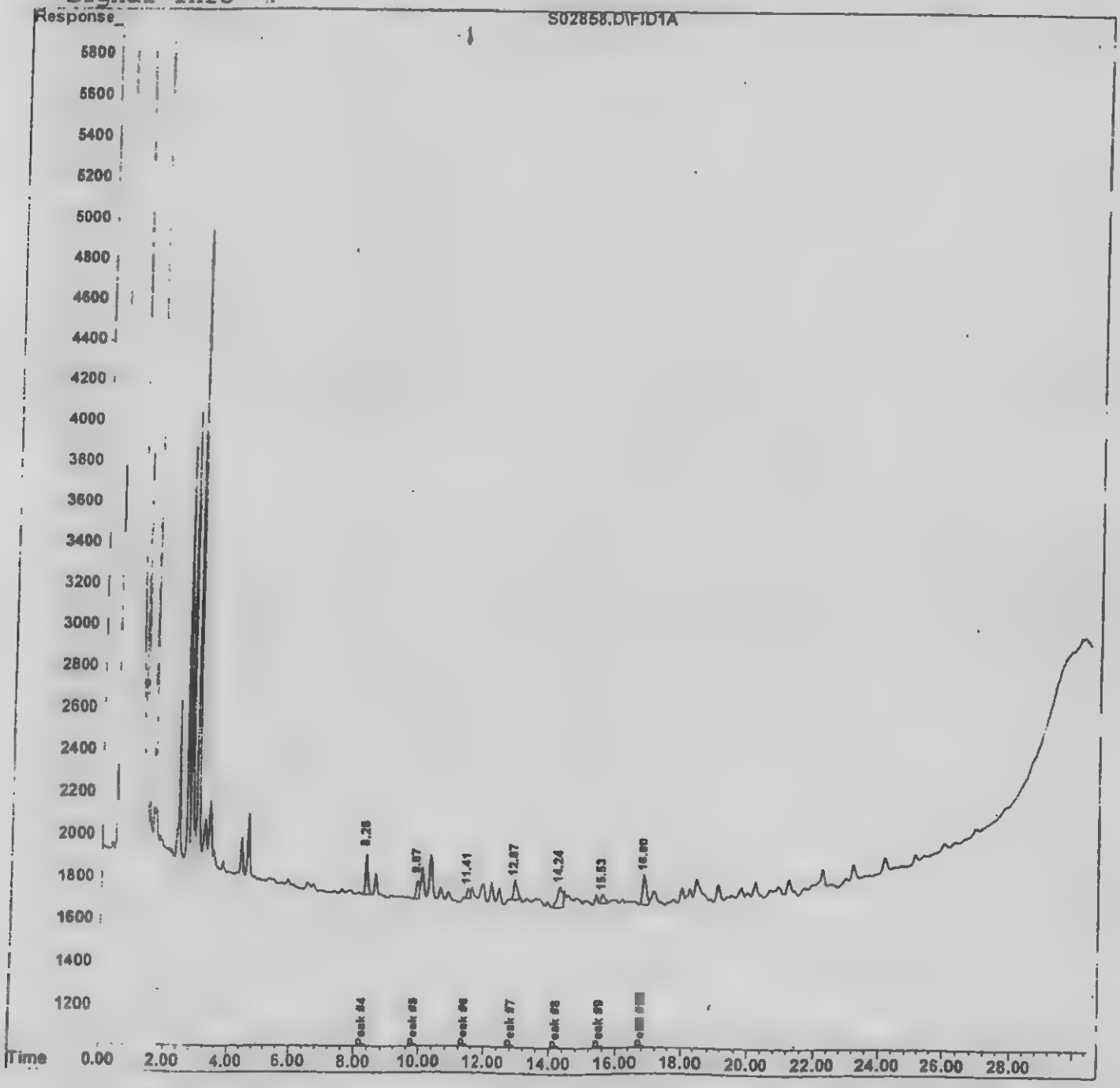
Quantitation Report

Data File : C:\HPCHEM\1\DATA\022002.B\S02858.D
Acq On : 21 Feb 2002 1:10 am
Sample : FUEL OIL #6 0.1
Misc :
IntFile : rteint.p
Quant Time: Feb 21 13:20 2002 Quant Results File: TPH310.RES

Vial: 34
Operator: L CERCONE
Inst : GC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\022002.B\S02858.D Vial: 34
Acq On : 21 Feb 2002 1:10 am Operator: L CERCONE
Sample : FUEL OIL #6 0.1 Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 21 13:20 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\022002.B\S02850.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

		Compound	R.T.	Response	Conc	Units	
Target Compounds							
1)	t	Peak #1 Fuel Oil #2	0.00	0	N.D.	mg/l	d
2)	t	Peak #2	0.00	0	N.D.	mg/l	
3)	t	Peak #3	0.00	0	N.D.	mg/l	
4)	t	Peak #4	8.28	1030	0.009	mg/l	
5)	t	Peak #5	9.87	556	0.006	mg/l	
6)	t	Peak #6	11.41	302	0.006	mg/l	m
7)	t	Peak #7	12.87	731	0.008	mg/l	
8)	t	Peak #8	14.24	1048	0.012	mg/l	m
9)	t	Peak #9	15.53	355	0.009	mg/l	m
10)	t	Peak #10	16.80	1333	0.032	mg/l	

Act = 0.1
Obs = 0.086

000050

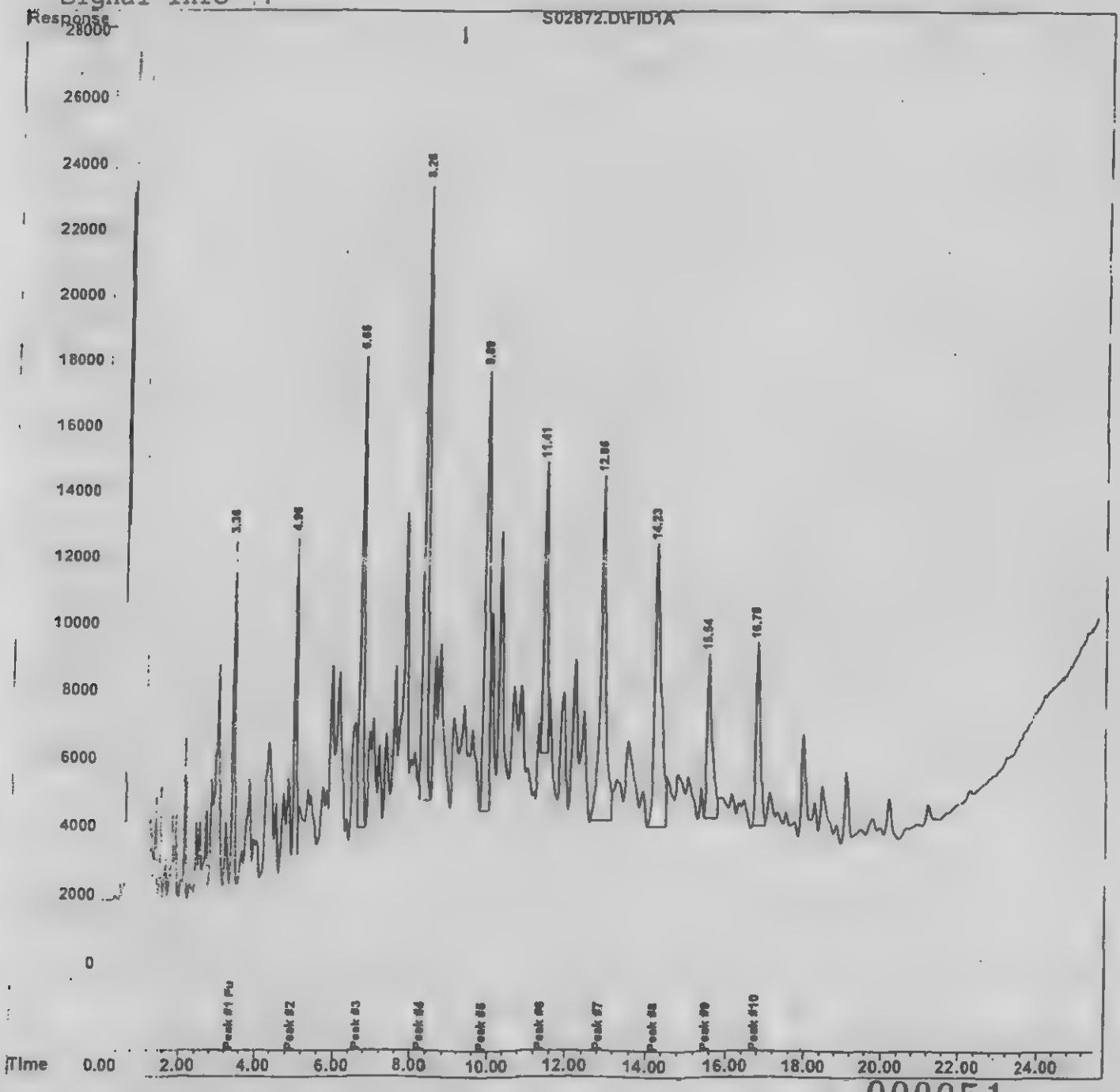
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\022002.B\S02872.D Vial: 3
Acq On : 21 Feb 2002 4:37 pm Operator: L CERCONE
Sample : FUEL OIL #2 Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 21 17:03 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\022002.B\S02872.D Vial: 3
Acq On : 21 Feb 2002 4:37 pm Operator: L CERCONE
Sample : FUEL OIL #2 Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 21 17:03 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\022002.B\S02850.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1) t	Peak #1 Fuel Oil #2	3.36	45348	1.064	mg/l	
2) t	Peak #2	4.96	46093	1.068	mg/l	
3) t	Peak #3	6.65	81771	1.062	mg/l	
4) t	Peak #4	8.28	117985	1.007	mg/l	
5) t	Peak #5	9.89	97940	1.081	mg/l	
6) t	Peak #6	11.41	51347	1.069	mg/l	m
7) t	Peak #7	12.86	101335	1.055	mg/l	
8) t	Peak #8	14.23	94206	1.083	mg/l	
9) t	Peak #9	15.54	43793	1.097	mg/l	
10) t	Peak #10	16.78	42848	1.014	mg/l	

000052

(f)=RT Delta > 1/2 Window (m)=manual int.

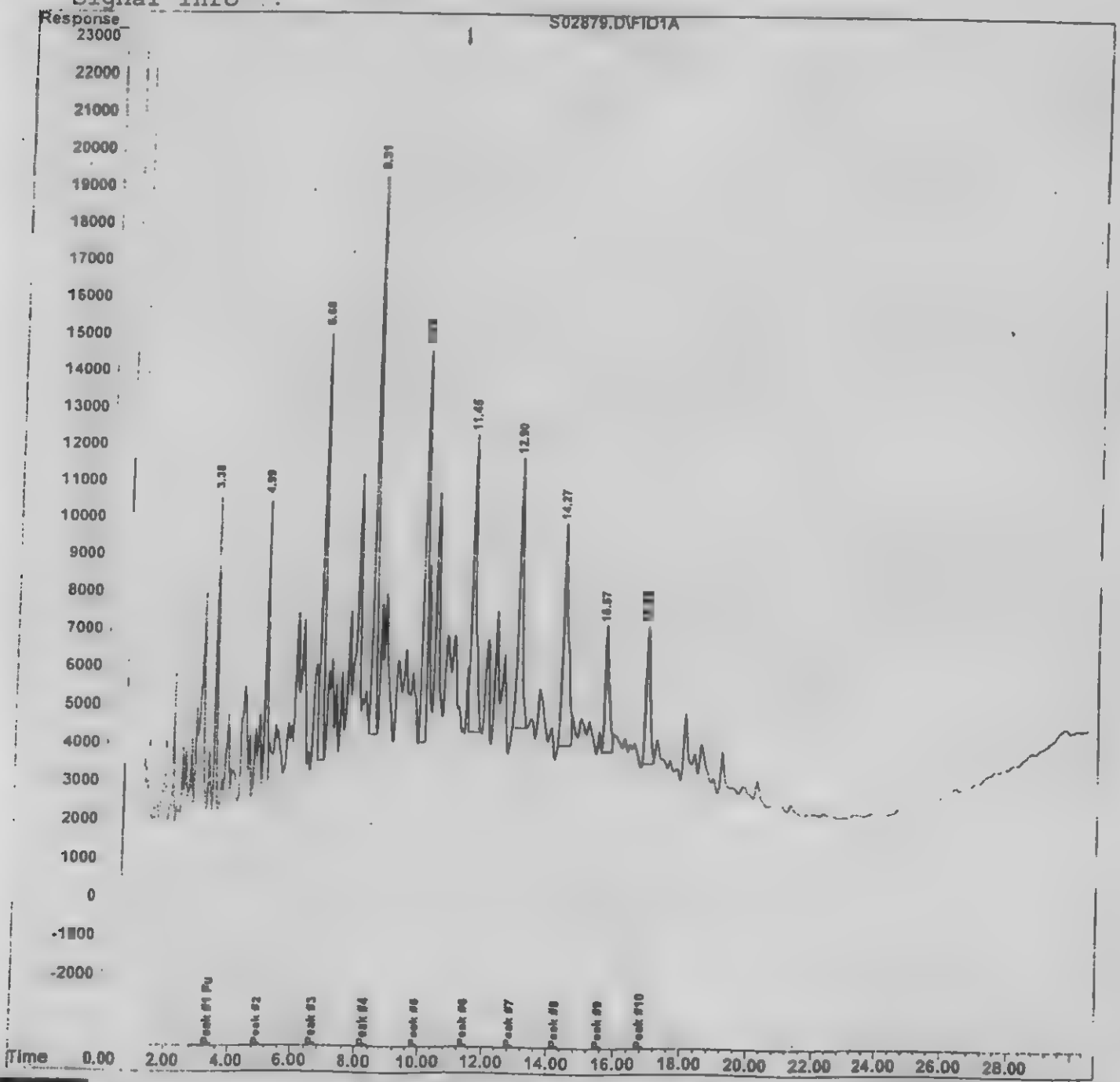
Quantitation Report

Data File : C:\HPCHEM\1\DATA\022002.B\S02879.D
Acq On : 25 Feb 2002 9:39 am
Sample : FUEL OIL #2
Misc :
IntFile : rteint.p
Quant Time: Feb 25 11:48 2002 Quant Results File: TPH310.RES

Vial: 51
Operator: L CERCONE
Inst : GC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\022002.B\S02879.D Vial: 51
Acq On : 25 Feb 2002 9:39 am Operator: L CERCONE
Sample : FUEL OIL #2 Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 25 11:48 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\022002.B\S02850.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
Target Compounds				
1) t	Peak #1 Fuel Oil #2	3.38	36741	0.862 mg/l
2) t	Peak #2	4.99	36612	0.848 mg/l
3) t	Peak #3	6.68	66048	0.858 mg/l
4) t	Peak #4	8.31	94917	0.810 mg/l
5) t	Peak #5	9.92	76288	0.842 mg/l
6) t	Peak #6	11.45	65034	1.354 mg/l
7) t	Peak #7	12.90	60191	0.626 mg/l
8) t	Peak #8	14.27	62677	0.721 mg/l
9) t	Peak #9	15.57	31448	0.788 mg/l
10) t	Peak #10	16.82	31451	0.744 mg/l

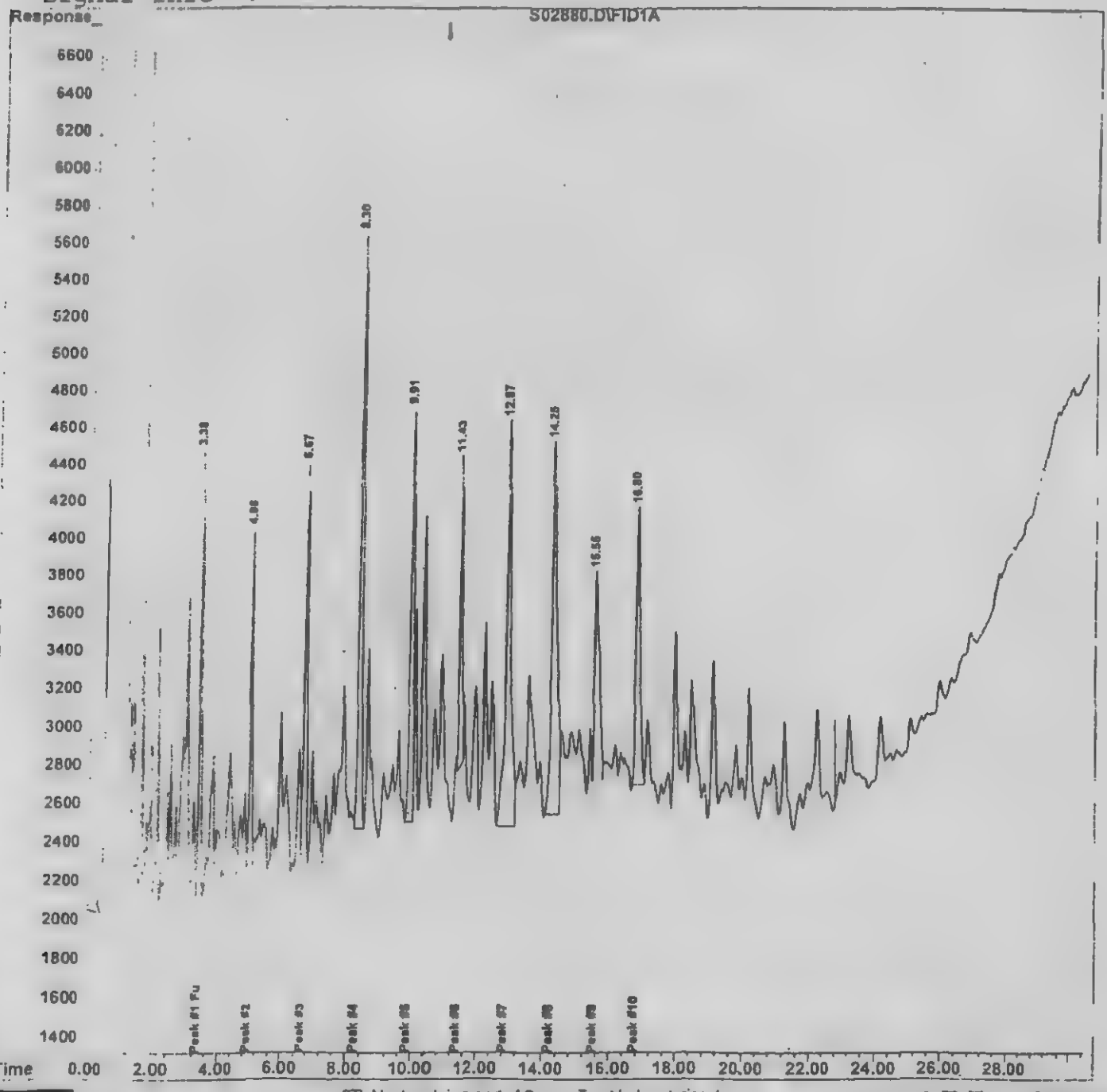
000054

Quantitation Report

Data File : C:\HPCHEM\1\DATA\022002.B\S02880.D Vial: 52
Acq On : 25 Feb 2002 10:16 am Operator: L CERCONE
Sample : FUEL OIL #4 Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 25 11:48 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\022002.B\S02880.D
Acq On : 25 Feb 2002 10:16 am
Sample : FUEL OIL #4
Misc :
IntFile : rteint.p
Quant Time: Feb 25 11:48 2002 Quant Results File: TPH310.RES

Vial: 52
Operator: L CERCONE
Inst : GC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\022002.B\S02850.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

		Compound	R.T.	Response	Conc Units
		Target Compounds			
1)	t	Peak #1 Fuel Oil #2	3.38	10467	0.246 mg/l
2)	t	Peak #2	4.98	8453	0.196 mg/l
3)	t	Peak #3	6.67	12055	0.157 mg/l
4)	t	Peak #4	8.30	19389	0.165 mg/l
5)	t	Peak #5	9.91	15402	0.170 mg/l
6)	t	Peak #6	11.43	9914	0.206 mg/l
7)	t	Peak #7	12.87	22393	0.233 mg/l
8)	t	Peak #8	14.25	22601	0.260 mg/l
9)	t	Peak #9	15.55	11215	0.281 mg/l
10)	t	Peak #10	16.80	12320	0.291 mg/l

000056

(1 elta > 1/2 Window (m)=manual

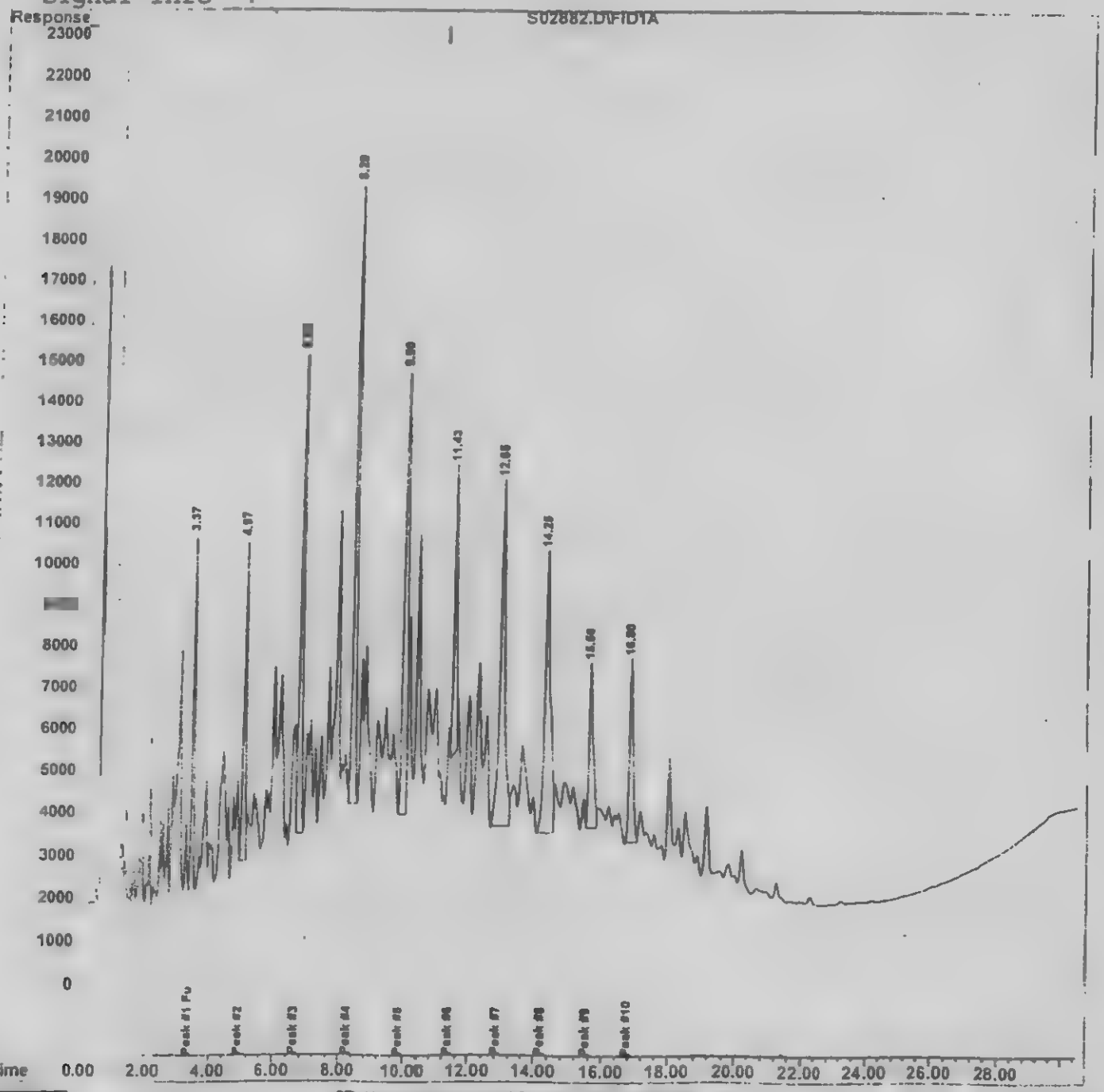
Quantitation Report

Data File : C:\HPCHEM\1\DATA\022002.B\S02882.D
Acq On : 25 Feb 2002 12:10 pm
Sample : FUEL OIL #2
Misc :
IntFile : rteint.p
Quant Time: Feb 25 13:35 2002 Quant Results File: TPH310.RES

Vial: 51
Operator: L CERCONE
Inst : GC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File	: C:\HPCHEM\1\DATA\022002.B\S02882.D	Vial	: 51
Acq On	: 25 Feb 2002 12:10 pm	Operator	: L CERCONE
Sample	: FUEL OIL #2	Inst	: GC#1
Misc	:	Multiplr	: 1.00
IntFile	: rteint.p		

Quant Time: Feb 25 13:35 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\022002.B\S02850.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

X

		Compound	R.T.	Response	Conc Units
		Target Compounds			
1)	t	Peak #1 Fuel Oil #2	3.37	37299	0.875 mg/l
2)	t	Peak #2	4.97	36932	0.856 mg/l
3)	t	Peak #3	6.66	66732	0.867 mg/l
4)	t	Peak #4	8.29	95687	0.816 mg/l
5)	t	Peak #5	9.90	79444	0.877 mg/l
6)	t	Peak #6	11.43	40435	0.842 mg/l
7)	t	Peak #7	12.88	83176	0.866 mg/l
8)	t	Peak #8	14.25	75103	0.863 mg/l
9)	t	Peak #9	15.56	35351	0.886 mg/l
10)	t	Peak #10	16.80	34680	0.820 mg/l

000058

SEVERN TRENT SERVICES
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Fax (845) 562-0841

TPH 310.13

Client ID: 310 Oil Blank
STL Lab No.: 310 Oil Blank
Client Name: STL-Edison
Project Name: T710
% Solid: 100
Matrix: Soil
Sample Wt/Vol.: 1 g
Level: Low

Date Collected:
Date Received:
Date Extracted: 2/20/02
Date Analyzed: 2/21/02
Report Date: 3/15/02
Column: RTx-5
Lab File ID: S02866.D
Dilution Factor: 1

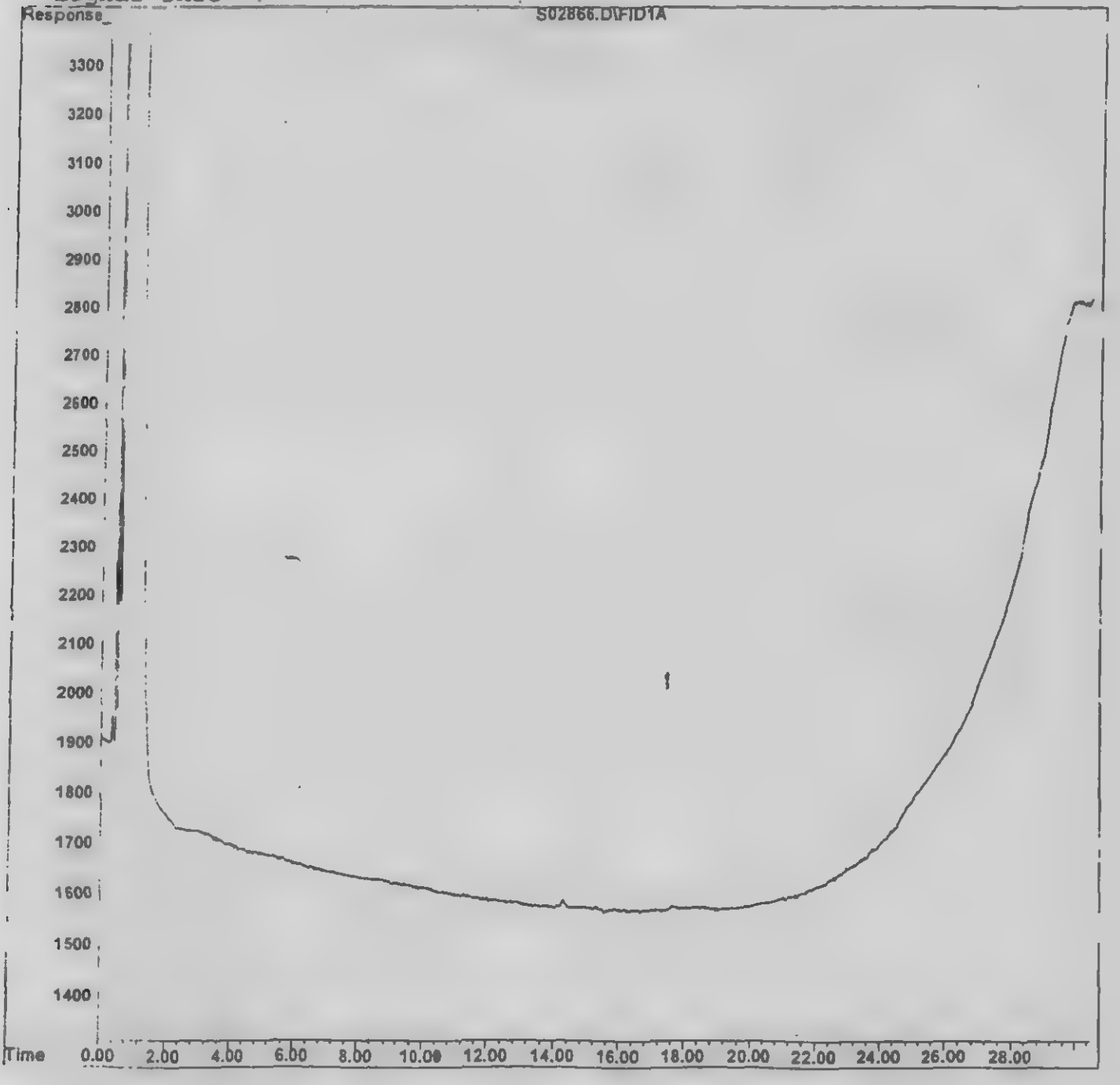
CAS No.	Compound	Detection Limit mg/kg	Conc mg/kg
	Fuel Oil #1	860.00	U
	Fuel Oil #2	860.00	U
	Fuel Oil #4	860.00	U
	Fuel Oil #6	860.00	U
	Gasoline		not present
	Lube Oil		not present
	Unknown Hydrocarbon		not present

FORM I - TPH

Data File : C:\HPCHEM\1\DATA\022002.B\S02866.D Vial: 41
Acq On : 21 Feb 2002 1:02 pm Operator: L CERCONE
Sample : 310 OIL BLANK Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 21 14:47 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\022002.B\S02866.D
Acq On : 21 Feb 2002 1:02 pm
Sample : 310 OIL BLANK
Misc :
IntFile : rteint.p
Quant Time: Feb 21 14:47 2002 Quant Results File: TPH310.RES

Vial: 41
Operator: L CERCONE
Inst : GC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\022002.B\S02850.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	t Peak #1 Fuel Oil #2	0.00	0	N.D.	mg/l
2)	t Peak #2	0.00	0	N.D.	mg/l
3)	t Peak #3	0.00	0	N.D.	mg/l
4)	t Peak #4	0.00	0	N.D.	mg/l
5)	t Peak #5	0.00	0	N.D.	mg/l
6)	t Peak #6	0.00	0	N.D.	mg/l
7)	t Peak #7	0.00	0	N.D.	mg/l
8)	t Peak #8	0.00	0	N.D.	mg/l
9)	t Peak #9	0.00	0	N.D.	mg/l
10)	t Peak #10	0.00	0	N.D.	mg/l

000061

(f)=RT Delta > 1/2 Window (m)=manual int.

TPH 310.13

Client ID: 310 H20 Blank
STL Lab No.: 310 H20 Blank
Client Name: STL-Edison
Project Name: T710
% Solid: 100
Matrix: Water
Sample Wt/Vol.: 1000 ml
Level: Low

Date Collected:
Date Received:
Date Extracted: 2/20/2002
Date Analyzed: 2/21/2002
Report Date: 3/18/2002
Column: Rtx-5
Lab File ID: S02860.D
Dilution Factor: 1

CAS No.	Compound	Detection Limit uL/L	Conc uL/L
	Fuel Oil #1	0.10	U
	Fuel Oil #2	0.10	U
	Fuel Oil #4	0.10	U
	Fuel Oil #6	0.10	U
	Gasoline		not present
	Lube Oil		not present
	Unknown Hydrocarbon		not present

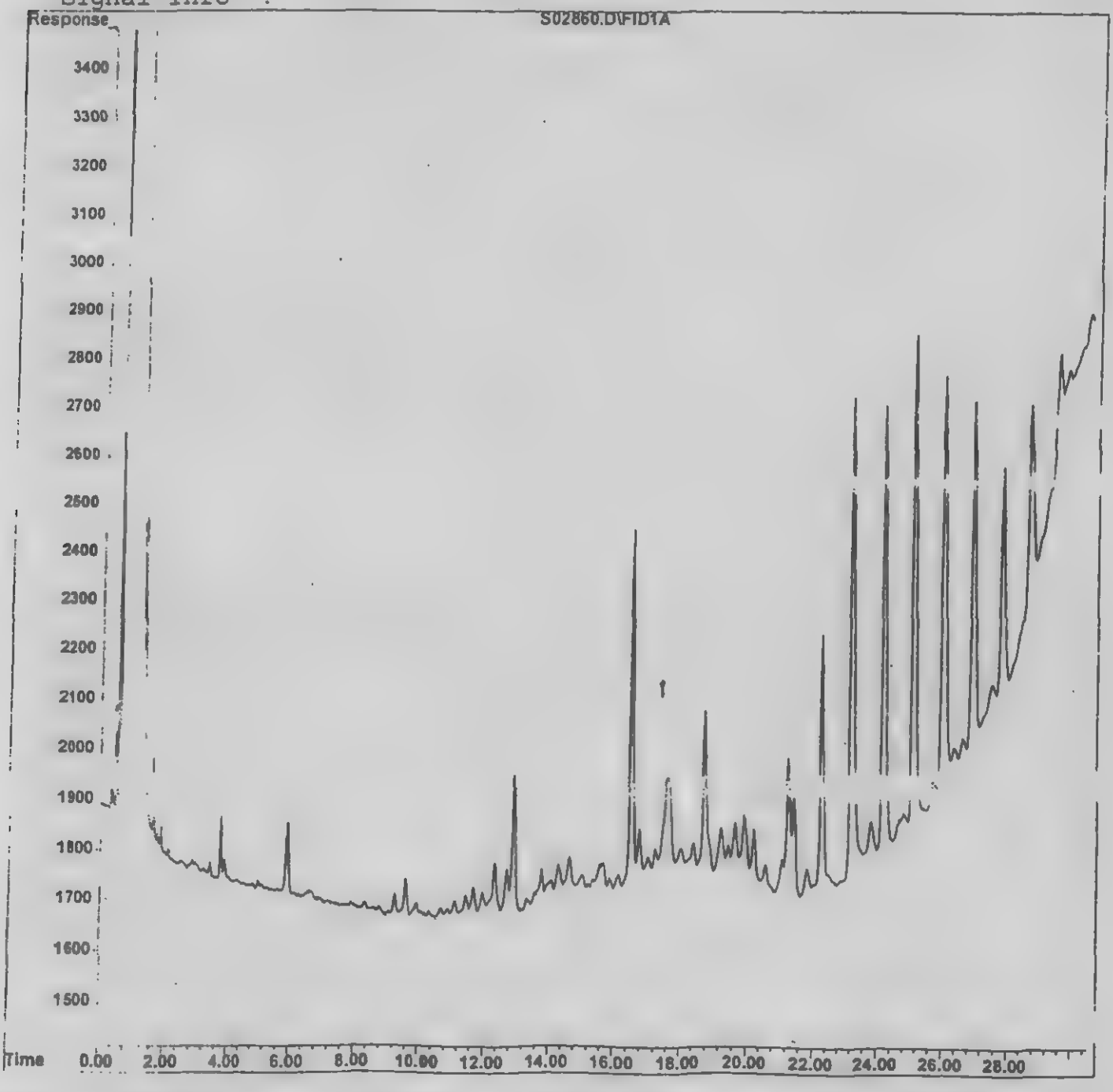
1

FORM I - TPH

Data File : C:\HPCHEM\1\DATA\022002.B\S02860.D Vial: 35
Acq On : 21 Feb 2002 9:21 am Operator: L CERCONE
Sample : 310 H20 BLANK Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 21 13:21 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : C:\HPCHEM\1\DATA\022002.B\S02860.D Vial: 35
Acq On : 21 Feb 2002 9:21 am Operator: L CERCONE
Sample : 310 H20 BLANK Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 21 13:21 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\022002.B\S02850.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1) t	Peak #1 Fuel Oil #2	0.00	0	N.D.	mg/l
2) t	Peak #2	0.00	0	N.D.	mg/l
3) t	Peak #3	0.00	0	N.D.	mg/l
4) t	Peak #4	0.00	0	N.D.	mg/l
5) t	Peak #5	0.00	0	N.D.	mg/l
6) t	Peak #6	0.00	0	N.D.	mg/l
7) t	Peak #7	0.00	0	N.D.	mg/l d
8) t	Peak #8	0.00	0	N.D.	mg/l
9) t	Peak #9	0.00	0	N.D.	mg/l
10) t	Peak #10	0.00	0	N.D.	mg/l d

000064

(f)=RT Delta > 1/2 Window (m)=manual int.

TPH 310.13

Client ID: 310 Oil Blank Spike
STL Lab No.: 310 Oil Blank Spike
Client Name: STL-Edison
Project Name: T710
% Solid: 100
Matrix: Soil
Sample Wt/Vol.: 1 g
Level: Low

Date Collected:
Date Received:
Date Extracted: 2/20/02
Date Analyzed: 2/21/02
Report Date: 3/15/02
Column: RTx-5
Lab File ID: S02867.D
Dilution Factor: 1

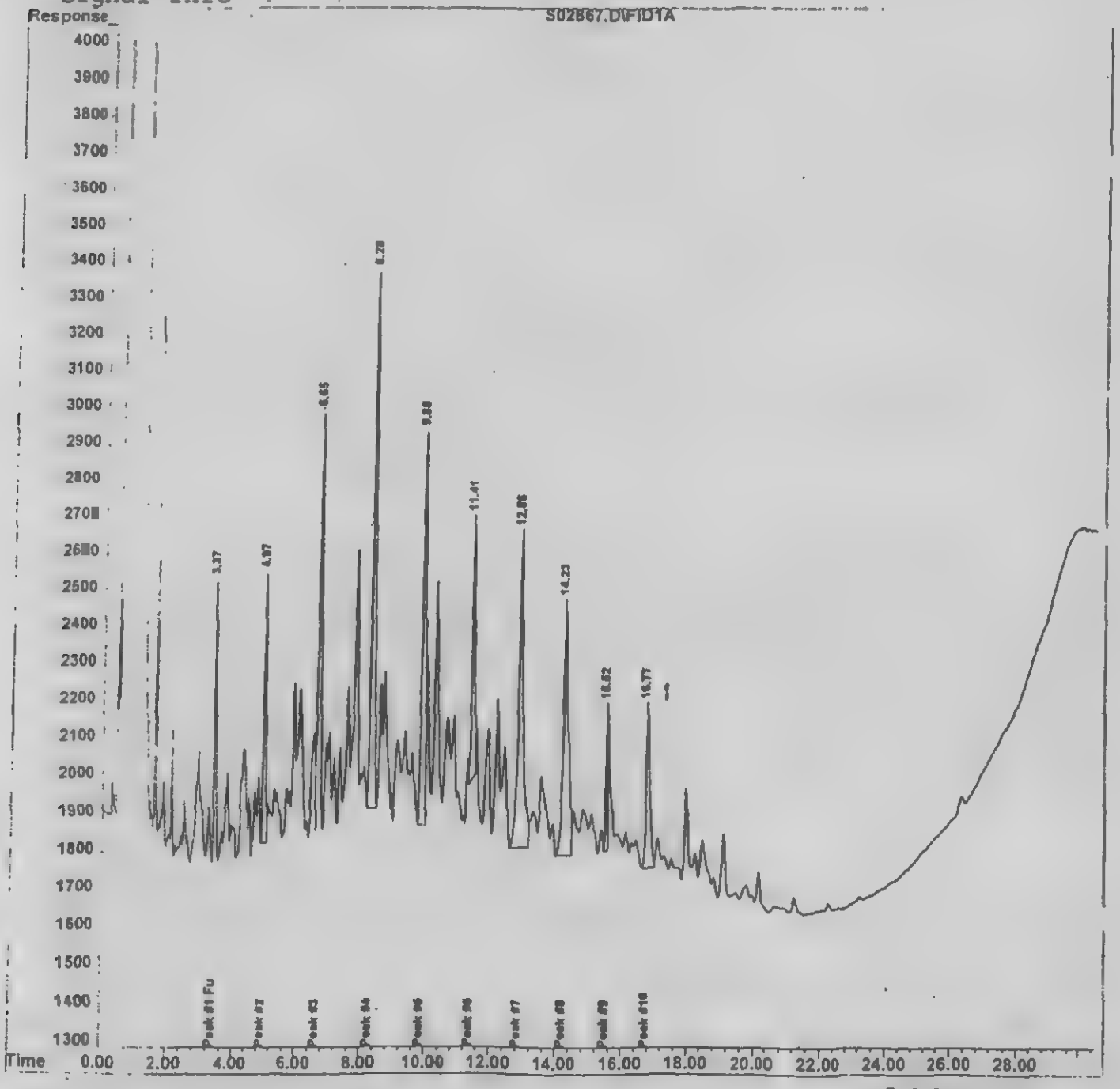
CAS No.	Compound	Detection Limit mg/kg	Conc mg/kg
	[illegible]	[illegible]	[illegible] U
	Fuel Oil #2	860.00	6940.0
	[illegible]	[illegible]	[illegible] U
	Fuel Oil #6	860.00	U
	[illegible]	[illegible]	[illegible]
	Lube Oil	not present	
	[illegible]	[illegible]	

FORM I - TPH

Data File : C:\HPCHEM\1\DATA\022002.B\S02867.D Vial: 42
Acq On : 21 Feb 2002 1:39 pm Operator: L CERCONE
Sample : 310 OIL BLANK SPIKE Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 21 14:47 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : C:\HPCHEM\1\DATA\022002.B\S02867.D Vial: 42
Acq On : 21 Feb 2002 1:39 pm Operator: L CERCONE
Sample : 310 OIL BLANK SPIKE Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 21 14:47 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\022002.B\S02850.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	Target Compounds			
1)	t Peak #1 Fuel Oil #2	3.37	3349	0.079 mg/l
2)	t Peak #2	4.97	3478	0.081 mg/l
3)	t Peak #3	6.65	6579	0.085 mg/l
4)	t Peak #4	8.28	9317	0.079 mg/l
5)	t Peak #5	9.88	7771	0.086 mg/l
6)	t Peak #6	11.41	4206	0.088 mg/l
7)	t Peak #7	12.86	8342	0.087 mg/l
8)	t Peak #8	14.23	7596	0.087 mg/l
9)	t Peak #9	15.52	1338	0.034 mg/l
10)	t Peak #10	16.77	3581	0.085 mg/l

000067

(f)=RT Delta > 1/2 Window (m)=manual int.

TPH 310.13

Client ID: 310 H20 Blank Spike
STL Lab No.: 310 H20 Blank Spike
Client Name: STL-Edison
Project Name: T710
% Solid: 100
Matrix: Water
Sample Wt/Vol.: 1000 ml
Level: Low

Date Collected:
Date Received:
Date Extracted: 2/20/2002
Date Analyzed: 2/21/2002
Report Date: 3/18/2002
Column: Rtx-5
Lab File ID: S02861.D
Dilution Factor: 1

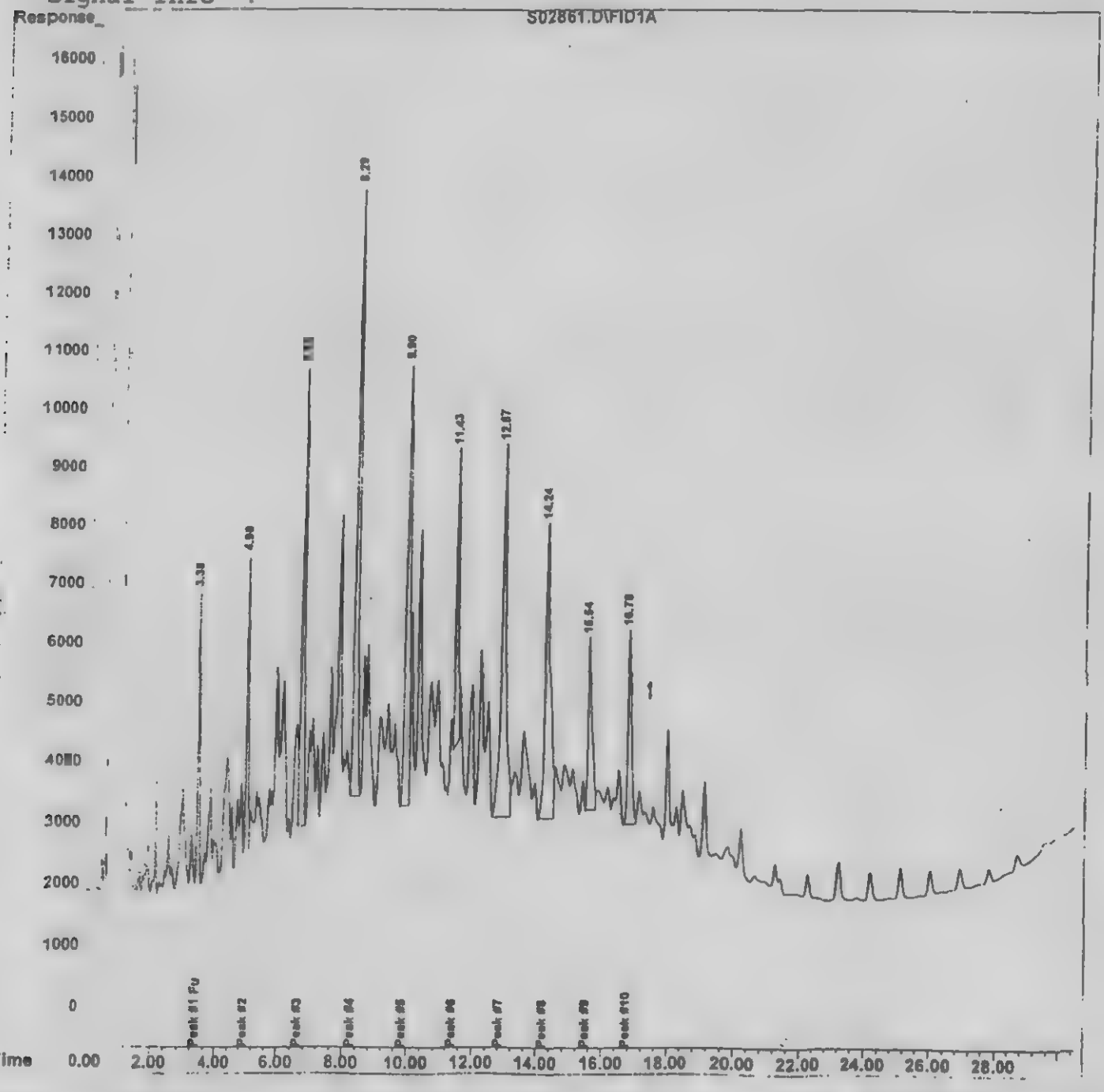
CAS No.	Compound	Detection Limit uL/L	Conc uL/L
	Fuel Oil #1	0.10	U
	Fuel Oil #2	0.10	0.59
	Fuel Oil #4	0.10	U
	Fuel Oil #6	0.10	U
	Gasoline		not present
	Lube Oil		not present
	Unknown Hydrocarbon		not present

FORM I - TPH

Data File : C:\HPCHEM\1\DATA\022002.B\S02861.D Vial: 36
Acq On : 21 Feb 2002 9:58 am Operator: L CERCONE
Sample : 310 H2O BLANK SPIKE Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 21 13:21 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : C:\HPCHEM\1\DATA\022002.B\S02861.D
Acq On : 21 Feb 2002 9:58 am
Sample : 310 H2O BLANK SPIKE
Misc :
IntFile : rteint.p
Quant Time: Feb 21 13:21 2002 Quant Results File: TPH310.RES

Vial: 36
Operator: L CERCONE
Inst : GC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\022002.B\S02850.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	Target Compounds			
1)	t Peak #1 Fuel Oil #2	3.38	21169	0.497 mg/l
2)	t Peak #2	4.98	24021	0.557 mg/l
3)	t Peak #3	6.66	44584	0.579 mg/l
4)	t Peak #4	8.29	64567	0.551 mg/l
5)	t Peak #5	9.90	54962	0.606 mg/l
6)	t Peak #6	11.43	29297	0.610 mg/l
7)	t Peak #7	12.87	61908	0.644 mg/l
8)	t Peak #8	14.24	54840	0.630 mg/l
9)	t Peak #9	15.54	25638	0.642 mg/l
10)	t Peak #10	16.78	26220	0.620 mg/l

000070

(f)=RT Delta > 1/2 Window (m)=manual int.

TPH 310.13

Client ID: ZZZZZ MS
STL Lab No.: ZZZZZ MS
Client Name: STL-Edison
Project Name: T710
% Solid: 100
Matrix: Water
Sample Wt/Vol.: 1000 ml
Level: Low

Date Collected:
Date Received:
Date Extracted: 2/20/2002
Date Analyzed: 2/21/2002
Report Date: 3/18/2002
Column: Rtx-5
Lab File ID: S02864.D
Dilution Factor: 1

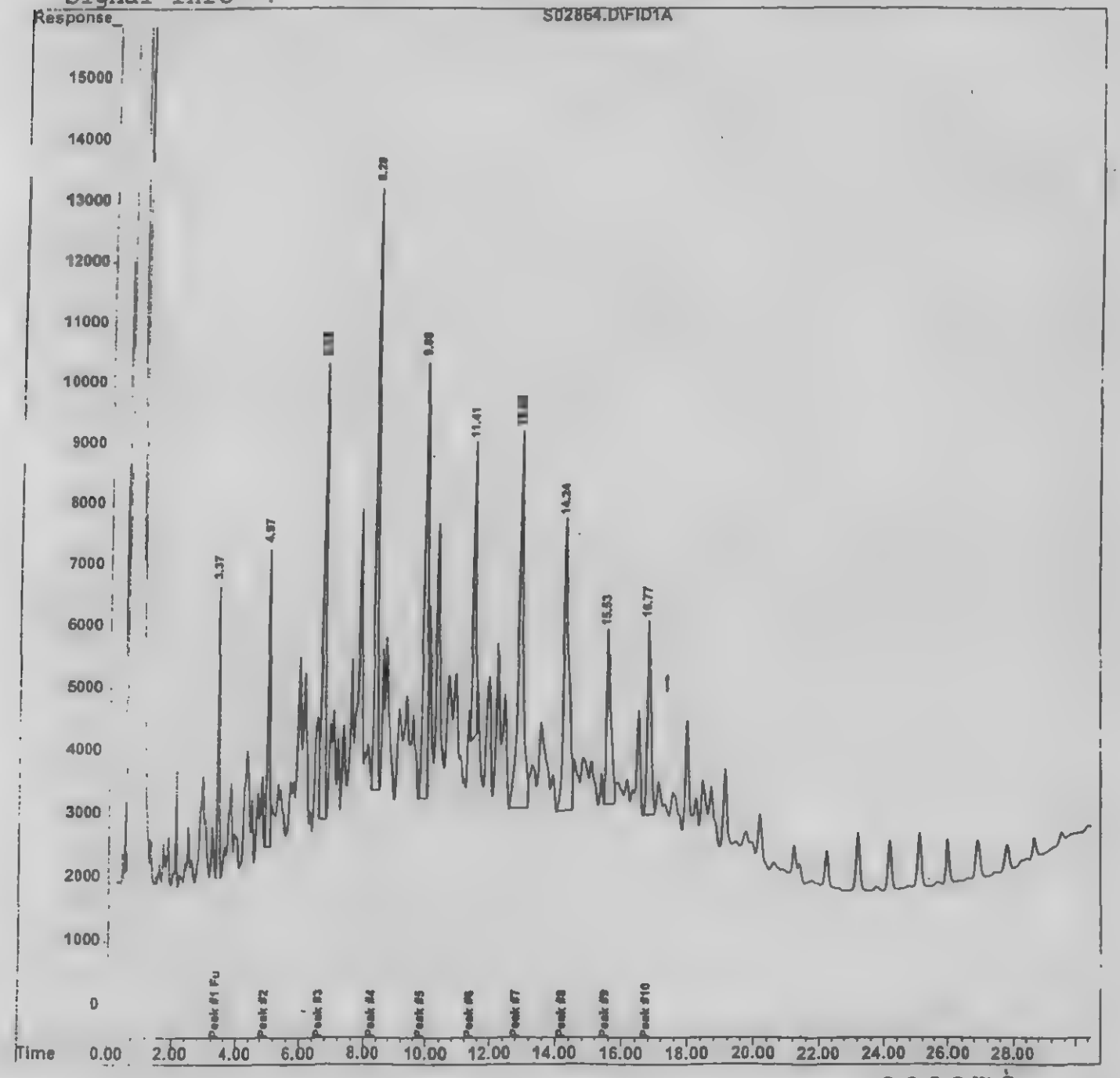
CAS No.	Compound	Detection Limit ul/L	Conc ul/L
	Fuel Oil #1	0.10	U
	Fuel Oil #2	0.10	0.57
	Fuel Oil #4	0.10	U
	Fuel Oil #6	0.10	U
	Gasoline		not present
	Lube Oil		not present
	Unknown Hydrocarbon		not present

FORM I - TPH

Data File : C:\HPCHEM\1\DATA\022002.B\S02864.D Vial: 39
Acq On : 21 Feb 2002 11:48 am Operator: L CERCONE
Sample : ZZZZZMS Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 21 13:22 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : C:\HPCHEM\1\DATA\022002.B\S02864.D Vial: 39
Acq On : 21 Feb 2002 11:48 am Operator: L CERCONE
Sample : ZZZZZMS Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 21 13:22 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\022002.B\S02850.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	Target Compounds			
1)	t Peak #1 Fuel Oil #2	3.37	20397	0.479 mg/l
2)	t Peak #2	4.97	23054	0.534 mg/l
3)	t Peak #3	6.65	42901	0.557 mg/l
4)	t Peak #4	8.28	62175	0.530 mg/l
5)	t Peak #5	9.88	51844	0.572 mg/l
6)	t Peak #6	11.41	28007	0.583 mg/l
7)	t Peak #7	12.86	59449	0.619 mg/l
8)	t Peak #8	14.24	52427	0.603 mg/l
9)	t Peak #9	15.53	25189	0.631 mg/l
10)	t Peak #10	16.77	24677	0.584 mg/l

(f)=RT Delta > 1/2 Window (m)=manual int.

TPH 310.13

Client ID: ZZZZZ MSD
STL Lab No.: ZZZZZ MSD
Client Name: STL-Edison
Project Name: T710
% Solid: 100
Matrix: Water
Sample Wt/Vol.: 1000 ml
Level: Low

Date Collected:
Date Received:
Date Extracted: 2/20/2002
Date Analyzed: 2/21/2002
Report Date: 3/18/2002
Column: Rtx-5
Lab File ID: S02865.D
Dilution Factor: 1

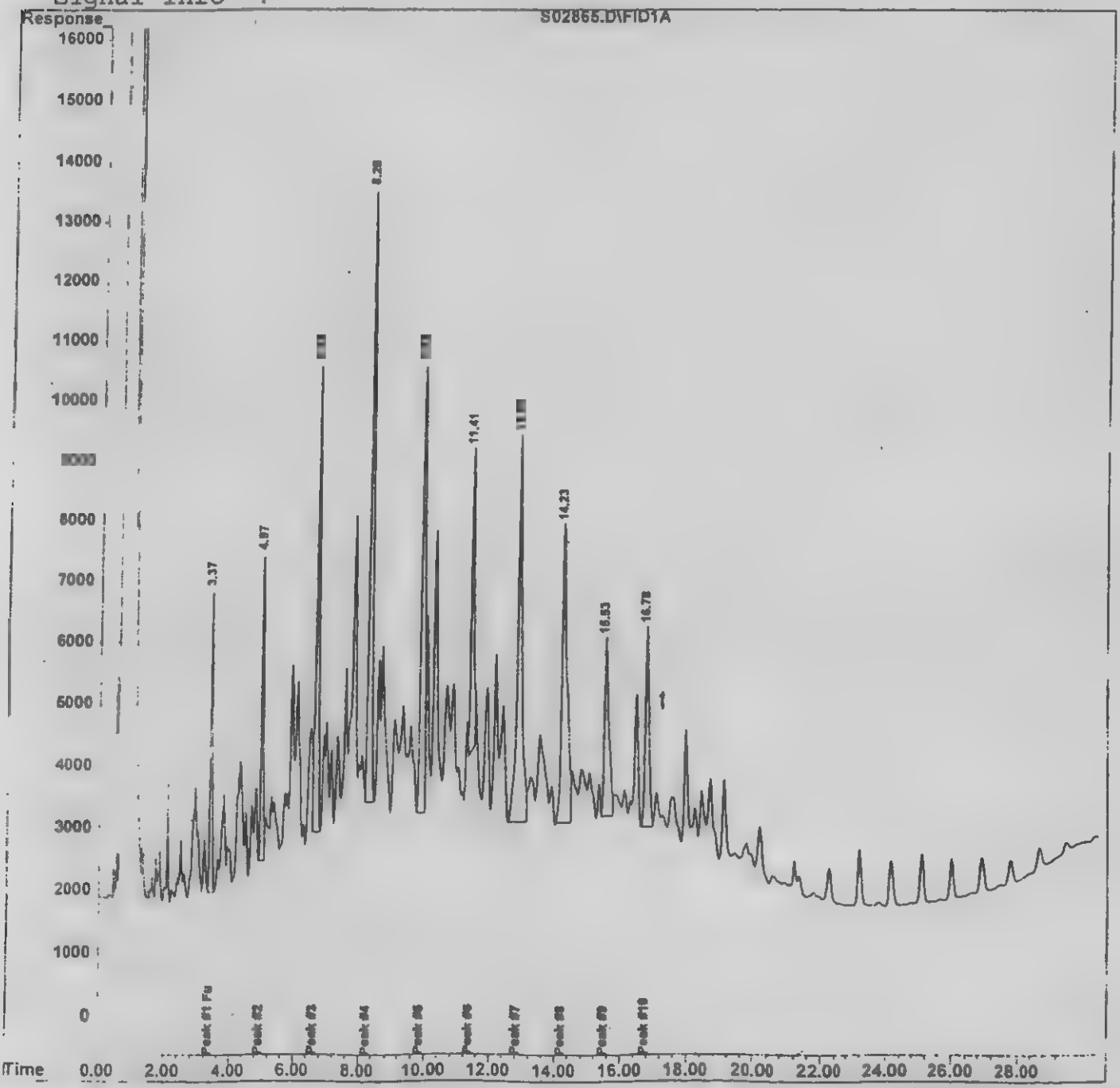
CAS No.	Compound	Detection Limit uL/L	Conc uL/L
	Fuel Oil #1	0.10	U
	Fuel Oil #2	0.10	0.59
	Fuel Oil #4	0.10	U
	Fuel Oil #6	0.10	U
	Gasoline		not present
	Lube Oil		not present
	Unknown Hydrocarbon		not present

FORM I - TPH

Data File : C:\HPCHEM\1\DATA\022002.B\S02865.D Vial: 40
Acq On : 21 Feb 2002 12:25 pm Operator: L CERCONE
Sample : ZZZZZMSD Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 21 13:22 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : C:\HPCHEM\1\DATA\022002.B\S02865.D Vial: 40
Acq On : 21 Feb 2002 12:25 pm Operator: L CERCONE
Sample : ZZZZZMSD Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Feb 21 13:22 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\022002.B\S02850.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	Target Compounds			
1)	t Peak #1 Fuel Oil #2	3.37	21187	0.497 mg/l
2)	t Peak #2	4.97	23978	0.556 mg/l
3)	t Peak #3	6.65	44162	0.573 mg/l
4)	t Peak #4	8.28	63862	0.545 mg/l
5)	t Peak #5	9.89	53535	0.591 mg/l
6)	t Peak #6	11.41	29446	0.613 mg/l
7)	t Peak #7	12.86	61440	0.639 mg/l
8)	t Peak #8	14.23	53724	0.618 mg/l
9)	t Peak #9	15.53	26008	0.652 mg/l
10)	t Peak #10	16.78	25772	0.610 mg/l

Extraction Log

Start Date 2/20/02 Stop Date _____ Extraction Type 310 SE OIL/WATER
Please Specify

Lab Number	Sample No.	Initial Volume	TCLP Volume	Final Volume	Batch Number	Extract Date	Extract Time	Conc. Date	pH	% Moisture	Analyst	Comments
BLK				10ml		2/20/02	11:00	2/20/02				
BLK SPK												
208768-01		0.82										
-01	MS	0.84										
-01	MSD	0.87										
BLK	310	1000		1ml		2/20/02	11:30	2/20/02				
BLK SPK												
MS-TAP												
MSD-TAP												
208768-02		990										
-03		960										

000036

QC: A blank and blank spike must be prepared each time samples are extracted. An MS/MSD must be prepared for every 20 samples that are extracted or every week whichever is more frequent.

000077

315 Fullerton Avenue
Newburgh, NY 12550

04/09/2002

SEVERN TRENT SERVICES

STL Edison
777 New Durham Road
Edison, NJ 08817

Tel: 732-549-3900
Fax: 732-549-3679
www.stl-inc.com

GZA GeoEnvironmental
65 Willowbrook Blvd
Wayne, NJ 07470

Attention: Ms. Frances Schultz

Laboratory Results
Job No. U412 - SSB/NY

Dear Ms. Schultz:

Enclosed are the results you requested for the following sample(s) received at our laboratory on March 13, 2002.

Lab No.	Client ID	Analysis Required
337190	PRODUCT-SSB-MW11	GC Fingerprint NYSDOH 310-13
337191	SSB_MW-5	8021p-Stars List 8270 Stars List
337192	CE_MW-5	8021p-Stars List 8270 Stars List
337193	Field_Blank	8021p-Stars List 8270 Stars List
337194	Trip_Blank	8021p-Stars List

An invoice for our services is also enclosed. If you have any questions please contact your Project Manager, Randy Wolfe, at (732) 549-3900.

Very Truly Yours,

Michael J. Urban
Laboratory Director

Sample Data Summary Package 1
Lab/Client ID Cross Referrence 2
Sample Preparation and Analysis Summary 4
Analytical Results Summary 8

General Information 17
Chain of Custody 17
Non-Conformance Summary 20

Subcontract Data Package ..... [illegible]

This is the Last Page of the Document ..... [illegible]

SEVERN TRENT SERVICES

Sample Data Summary Package

SDG: U412

Site: SSB/NY

STL Edison is a part of Severn Trent Laboratories, Inc.

SEVERN TRENT SERVICES

Lab/Client ID Cross Referrence

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND ANALYTICAL REQUIREMENT SUMMARY

Customer Sample Code	Laboratory Sample Code	Analytical Requirements						
		*VOA GC/MS Method	*BNA GC/MS Method	*VOA GC Method	*BNA GC Method	*PEST PCBs Method	*Metals Method	*Other
PRODUCT-SSB-MW11	337190				❖			❖
SSB_MW-5	337191		❖	❖				
CE_MW-5	337192		❖	❖				
Field_Blank	337193		❖	❖				
Trip_Blank	337194		❖	❖				

Sample Preparation and Analysis Summary

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
SEMIVOLATILE (BNA)
ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
337191R1	WATER	3/12/02	3/13/02	3/13/02	3/16/02
337191	WATER	3/12/02	3/13/02	3/13/02	3/15/02
337192	WATER	3/12/02	3/13/02	3/13/02	3/15/02
337192R1	WATER	3/12/02	3/13/02	3/13/02	3/16/02
337193	WATER	3/12/02	3/13/02	3/13/02	3/15/02

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
SEMIVOLATILE (BNA)
ANALYSES

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Auxiliary Cleanup	Dil/Conc Factor
337190	ORGANIC	1989 NYSDEC ASP - Revision 10/95	Liquid-Liquid		20.00
337191R1	WATER	1989 NYSDEC ASP - Revision 10/95	Liquid-Liquid		1.00
337191	WATER	1989 NYSDEC ASP - Revision 10/95	Liquid-Liquid		1.00
337192R1	WATER	1989 NYSDEC ASP - Revision 10/95	Liquid-Liquid		1.00
337192	WATER	1989 NYSDEC ASP - Revision 10/95	Liquid-Liquid		1.00
337193	WATER	1989 NYSDEC ASP - Revision 10/95	Liquid-Liquid		1.00

SEVERN TRENT SERVICES

Client ID: SSB_MW-5
Site: SSB/NY

Lab Sample No: 337191
Lab Job No: U412

Date Sampled: 03/12/02
Date Received: 03/13/02
Date Analyzed: 03/14/02
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: gpid2365.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 8021B

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Benzene	ND	1.0
Toluene	ND	1.0
Ethylbenzene	2.7	1.0
Isopropylbenzene	ND	1.0
n-Propylbenzene	ND	1.0
1,3,5-Trimethylbenzene	2.2	1.0
tert-Butylbenzene	ND	1.0
1,2,4-Trimethylbenzene	ND	1.0
sec-Butylbenzene	ND	1.0
p-Isopropyltoluene	ND	1.0
n-Butylbenzene	ND	1.0
Naphthalene	6.7	1.0
MTBE	12	1.0
Total Xylenes	1.0	1.0

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Client ID: CE_MW-5
Site: SSB/NY

Lab Sample No: 337192
Lab Job No: U412

Date Sampled: 03/12/02
Date Received: 03/13/02
Date Analyzed: 03/14/02
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: gpid2361.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 5.0

VOLATILE ORGANICS - GC/PID
METHOD 8021B

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Benzene	ND	5.0
Toluene	28	5.0
Ethylbenzene	ND	5.0
Isopropylbenzene	ND	5.0
n-Propylbenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
p-Isopropyltoluene	ND	5.0
n-Butylbenzene	ND	5.0
Naphthalene	ND	5.0
MTBE	130	5.0
Total Xylenes	7.6	5.0

SEVERN TRENT SERVICES

Client ID: Field_Blank
Site: SSB/NY

Lab Sample No: 337193
Lab Job No: U412

Date Sampled: 03/12/02
Date Received: 03/13/02
Date Analyzed: 03/14/02
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: gpid2356.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 8021B

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Benzene	ND	1.0
Toluene	ND	1.0
Ethylbenzene	ND	1.0
Isopropylbenzene	ND	1.0
n-Propylbenzene	ND	1.0
1,3,5-Trimethylbenzene	ND	1.0
tert-Butylbenzene	ND	1.0
1,2,4-Trimethylbenzene	ND	1.0
sec-Butylbenzene	ND	1.0
p-Isopropyltoluene	ND	1.0
n-Butylbenzene	ND	1.0
Naphthalene	ND	1.0
MTBE	ND	1.0
Total Xylenes	ND	1.0

Client ID: Trip_Blank
Site: SSB/NY

Lab Sample No: 337194
Lab Job No: U412

Date Sampled: 03/12/02
Date Received: 03/13/02
Date Analyzed: 03/14/02
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: gpid2357.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 8021B

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Benzene	ND	1.0
Toluene	ND	1.0
Ethylbenzene	ND	1.0
Isopropylbenzene	ND	1.0
n-Propylbenzene	ND	1.0
1,3,5-Trimethylbenzene	ND	1.0
tert-Butylbenzene	ND	1.0
1,2,4-Trimethylbenzene	ND	1.0
sec-Butylbenzene	ND	1.0
p-Isopropyltoluene	ND	1.0
n-Butylbenzene	ND	1.0
Naphthalene	ND	1.0
MTBE	ND	1.0
Total Xylenes	ND	1.0

Client ID: SSB_MW-5
Site: SSB/NY

Lab Sample No: 337191
Lab Job No: U412

Date Sampled: 03/12/02
Date Received: 03/13/02
Date Extracted: 03/13/02
Date Analyzed: 03/15/02
GC Column: DB-5
Instrument ID: BNAMS8.i
Lab File ID: aa8649.d

Matrix: WATER
Level: LOW
Sample Volume: 960 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

PAH - GC/MS
METHOD 8270C

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Naphthalene	2.5J	10
Acenaphthene	0.8J	10
Fluorene	0.5J	10
Phenanthrene	ND	10
Anthracene	ND	10
Fluoranthene	ND	10
Pyrene	ND	10
Benzo(a)anthracene	ND	1.0
Chrysene	ND	10
Benzo(b)fluoranthene	0.3J	1.0
Benzo(k)fluoranthene	0.3J	1.0
Benzo(a)pyrene	0.2J	1.0
Indeno(1,2,3-cd)pyrene	0.2J	1.0
Dibenz(a,h)anthracene	0.2J	1.0
Benzo(g,h,i)perylene	0.2J	10

SEVERN TRENT SERVICES

Client ID: CE_MW-5
Site: SSB/NY

Lab Sample No: 337192
Lab Job No: U412

Date Sampled: 03/12/02
Date Received: 03/13/02
Date Extracted: 03/13/02
Date Analyzed: 03/15/02
GC Column: DB-5
Instrument ID: BNAMS8.i
Lab File ID: aa8650.d

Matrix: WATER
Level: LOW
Sample Volume: 950 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

PAH - GC/MS
METHOD 8270C

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Naphthalene	0.8J	10
Acenaphthene	0.4J	10
Fluorene	0.3J	10
Phenanthrene	0.5J	10
Anthracene	ND	10
Fluoranthene	ND	10
Pyrene	ND	10
Benzo(a)anthracene	ND	1.0
Chrysene	ND	10
Benzo(b)fluoranthene	ND	1.0
Benzo(k)fluoranthene	ND	1.0
Benzo(a)pyrene	ND	1.0
Indeno(1,2,3-cd)pyrene	ND	1.0
Dibenz(a,h)anthracene	ND	1.0
Benzo(g,h,i)perylene	ND	10

Client ID: Field_Blank
Site: SSB/NY

Lab Sample No: 337193
Lab Job No: U412

Date Sampled: 03/12/02
Date Received: 03/13/02
Date Extracted: 03/13/02
Date Analyzed: 03/15/02
GC Column: DB-5
Instrument ID: BNAMS8.i
Lab File ID: aa8651.d

Matrix: WATER
Level: LOW
Sample Volume: 930 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

PAH - GC/MS
METHOD 8270C

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Naphthalene	ND	11
Acenaphthene	ND	11
Fluorene	ND	11
Phenanthrene	ND	11
Anthracene	ND	11
Fluoranthene	ND	11
Pyrene	ND	11
Benzo(a)anthracene	ND	1.1
Chrysene	ND	11
Benzo(b)fluoranthene	ND	1.1
Benzo(k)fluoranthene	ND	1.1
Benzo(a)pyrene	ND	1.1
Indeno(1,2,3-cd)pyrene	ND	1.1
Dibenz(a,h)anthracene	ND	1.1
Benzo(g,h,i)perylene	ND	11

SEVERN TRENT SERVICES

Site: SSB/NY

Lab Job No: U412

Date Sampled: 3/12/02
Date Received: 3/13/02
Matrix: Organic

Date Extracted: 3/13/02
Date Analyzed: 3/13/02

GC/FID FINGERPRINT

STL Edison Sample #	Client ID	Product I.D.
337190	PRODUCT-SSB-MW11	Most closely resembles a Diesel/#2 Fuel oil.

STL Edison is a part of Severn Trent Laboratories, Inc.

General Information

Chain of Custody

SAVERN TRENT LABORATORIES, INC.
777 New Durham Road
Edison, New Jersey 08817
Phone: (908) 549-3900 Fax: (908) 549-3679

****** 48-HR RUSH TAT *****

** **PRIORITY!** **

CHAIN OF CUSTODY / ANALYSIS REQUEST

PAGE 1 OF 1

Name (for report and invoice) Frances Schultz	Samplers Name (Printed) (GZA) N.Sokol & C. Sokolic	Site/Project Identification SSB/NYC - Subsurface Investigation
Company GZA GeoEnvironmental, Inc.	P.O. # STL Quote # 916736 12-01804	State (Location of site): NJ: [ ] NY: [x] Other:
Address 65 Willowbrook Blvd.	Analysis Turnaround Time Standard [ ]	Regulatory Program: NYSDEC
City Wayne NJ State Zip 07470	Rush Charges Authorized For: 2 Week [ ] 1 Week [ ] Other [x] 48-HRS	
Phone 973-256-7800 Fax 973-256-9339		

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

LAB USE ONLY
Project No:
Job No: U 412

Sample Identification	Date	Time	Matrix	No. of Cont.	VO+10 (8021)	BN+15 (8270)	Petroleum ID (NYSDOH 310-3)	Fingerprint (GC/FID)	Sample Numbers
PRODUCT SSB MW-11	3/12/02	8:25	NAPL	1			x	x	337190
SSB MW-5	3/12/02	11:30	Aq.	4	x	x			337191
CE MW-5	3/12/02	11:15	Aq.	4	x	x			337192
Field Blank	3/12/02	11:00	Aq.	3	x	x			337193
Trip Blank	3/12/02	-	Aq.	~~3~~ 2	x				337194

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____

Soil:
Water: 2,1

Special Instructions ********48-HR TAT******* Please provide data in Excel Format also Water Metals Filtered (Yes/No)?

Relinquished by	Company	Date / Time	Received by	Company
1) [signature]	GZA	3/13/02 1 9:15 Am	1) K-CHALOKA	STL
2) K. CHALOKA	STL Edison Ken Chaloka	3/13/02 1 11:54 Am	2) UPandya	STL- Edison
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12543), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132)

STL Edison
[illegible] New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice): Paul Nadzan	Samplers Name (Printed):	Client ID: U412
Company: STL Edison	P.O. #:	State: NY
Address: 777 New Durham Road	Analysis Turnaround Time: Standard [ ] Rush Charges Authorized for: 1 Week [ ] 2 Week [X] Other [ ]	NYSDEC
City: Edison State: NJ Zip: 08817		
Phone: 732-549-3900 Fax: 732-549-3679		

ANALYSIS REQUESTED (LIMITS OF BELOW TO INDX)

LAB USE ONLY
Project No:
Job No:

Sample Identification	Date	Time	Matrix	No. of. Cont.	NYSDOH 310-3							Sample Numbers
U412-337190	03/12/02	8:25	ORG	1	X							

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____

Soil:
Water:

Special Instructions: PLEASE FAX RESULTS BY 03/21/02

Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
1) [signature]	STL Edison	3/13/02 17:00	1) FED-EX	
Relinquished by 2) FED-EX	Company	Date / Time	Received by 2)	Company

Subcontracted to
STL Newburgh
315 Fullerton Avenue
Newburgh NY 12553

Ref:
Dept:

Date: 13MAR02 SHIPPING $10.24
Wgt: 0 LBS SPECIAL $0.05
HANDLING $0.[illegible]
TOTAL $10.29

SERVICE: PRIORITY OVERNIGHT
TRACK: 4783 2872 6648

Non-Conformance Summary

NON-CONFORMANCE SUMMARY

STL Edison Job Number: U412

Volatile Organics Analysis:

All data conforms with method requirements ✓; or
Analysis was not requested ____; or
Non-conformance for the specific samples listed is as follows:

See continuation page if checked ( )

Base/Neutral and/or Acid Extractable Organics:

All data conforms with method requirements ____; or
Analysis was not requested ____; or
Non-conformance for the specific samples listed is as follows:
(33-19, -92) Recovery of Surrogate #6 outside of QC limits (low). (METHOD 8270: QA BATCH 8001) Recovery of Phenol is outside of QC limits (low) in the MS/MSD.

See continuation page if checked ( )

PCBs and/or Organochlorine Pesticides:

All data conforms with method requirements ____; or
Analysis was not requested ✓; or
Non-conformance for the specific samples listed is as follows:

See continuation page if checked ( )

Non-conformance Summary, Page 2 of 2
STL Edison Job Number: U412

Metals Analysis:

All data conforms with method requirements ____; or
Analysis was not requested ✓; or
Non-conformance for the specific samples listed is as follows:

See continuation page if checked ( )

Total Petroleum Hydrocarbons:

All data conforms with method requirements ____; or
Analysis was not requested ✓; or
Non-conformance for the specific samples listed is as follows:

See continuation page if checked ( )

General Chemistry/Disposal Parameters:

All data conforms with method requirements ____; or
Analysis was not requested ✓; or
Non-conformance for the specific samples listed is as follows:

See continuation page if checked ( )

Signature of Laboratory Manager: [signature] Date: 4.8.02

Subcontract Data Package

STL Edison
Edison, New Jersey
Project: U412
STL Lab. #: 209552
Matrix: Water
1 of 1

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GC ORGANIC DATA

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SEVERN TRENT SERVICES

STL Newburgh
315 Fullerton Avenue
Newburgh, NY 12550

Tel 914 562 0890
Fax 914 562 0841
www.stl-inc.com

March 27, 2002

STL Edison
777 New Durham Road
Edison, New Jersey 08817

Attn.: Mr. Paul Nadzan

SUBJECT: CASE NARRATIVE, U412,
STL NUMBER 209552.

Dear Mr. Nadzan:

Enclosed are the analytical results for the U412 project. The samples were received on March 14, 2002 and were prepared and analyzed according to EPA established methodologies and protocols. The reports were completed according to NYSDEC ASP Category B reporting requirements.

Your evaluation of the enclosed data should incorporate the use of the attached case narrative.

I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

STL NEWBURGH

Patricia Chany dgs

Patricia Chany
Laboratory Director

EPH

Initial Dilution

The following sample was initially diluted as indicated due to suspected high concentration of hydrocarbons:

U412-337190 (209552-01): 100x

LABORATORY CHRONICLE

Job Number: 209552

Date: 03/27/2002

CUSTOMER: STL Edison | PROJECT: U412 | ATTN: Paul Nadzan

Lab ID: 209552-1 Client ID: U412-337190

Date Recvd: 03/14/2002 Sample Date: 03/12/2002

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
QA Services	Quality Assurance Services	1	19276		03/22/2002 0000	
310.13	TPH 310.13	1	19179		03/21/2002 0000	

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000004

STL Newburgh
315 Fullerton Avenue
Newburgh, NY 12550
Tel (845) 562-0990

SEVERN TRENT SERVICES

NYSDOH 10142 NJDEP 73015 CTDOHS PH-0554 EPA NY049 PA 68-378 M-NY049

U412

SAMPLE IDENTIFICATION AND ANALYTICAL REQUIREMENT SUMMARY

Customer Sample Code	Laboratory Sample Code	Analytical Requirements					
		*VOA GC/MS Method #	*BNA GC/MS Method #	*VOA GC Method #	*PEST PCBs Method #	*Metals	*Other
U412-337190	209552-01						117

*See attached summary of methodology for method numbers.

SUMMARY OF METHODOLOGY

I

Analysis	Aqueous	Ground Water Liquid/Solid Matrices
1 % Solid	EPA 160.3(A)	EPA 160.3(A)
2 Alkalinity-Tit.	SM182320-B(Q)	
3 Ammonia	SM184500-NH3E(Q)	
4 Ammonia	SM184500-NH3F(Q)	
5 Ammonia	LAC107061A(U)	
6 Antimony	EPA 204.2(A,D)	
7 Antimony	SM183113B(Q)	
8 Arsenic	EPA 206.2(A,D)	
9 Arsenic		SW846-7060A(B,D)
10 Arsenic	SM183113B(Q)	
11 Beryllium	SM183113B(Q)	
12 BOD	SM185210-B(Q)	
13 Bromide	EPA 300(A)	
14 Cadmium	SM183113B(Q)	
15 CBOD	SM185210-B(Q)	
16 Chloride	SM184500-CL-B(Q)	
17 Chloride(DW)	SM174500-CL-B(N)	
18 Chloride-IC	EPA 300(A)	
19 COD (high)	EPA 410.4(A)	
20 COD (low)	HACH 8000(W)	
21 Color	SM18 2120-B(Q)	
22 Coliform, Total-MF	SM18 9222B(Q)	
23 Coliform, Total	SM18 9223-MPN(Q)	
24 Conductivity	SM182510-B(Q)	
25 Cyanide	SM184500-CNE(Q)	
26 Cyanide		SW846-9010B(B)
27 Cyanide	LAC204001A(R)	
28 Cyanide, Amenable	SM184500-CNG(Q)	SW846-9010B(B)
29 Dissolved Oxygen	SM184500-O-C(Q)	
30 DRO		EPA DRO Draft Rev.5 (Y)
31 Enterococcus	ENTEROLERT	
32 E.Coli	SM18 9223-MPN(Q)	
33 Eptox		SW846-1310A(B)
34 Ethylene glycol	NYSDEC 89-9(M)	
35 ETPH	(AA)	
36 F. Coli-MF	SM189222C(Q)	
37 F. Coli-MF	SM189222D(Q)	
38 F. Coli-MPN	SM189221C(Q)	
39 Ferrous Iron	SM183500-FED(Q)	

40 Flashpoint		SW846-1010(B)
41 Fluoride, Total	EPA 340.2(A)	EPA 340.2(A)
42 Fluoride, Total	EPA 300(A)	
43 Grease & Oil	SM185520-B(Q)	
44 Grease & Oil	EPA 413.1 (A)	
45 GRO		EPA GRO Draft Rev. 5(Y)
46 Hardness, Total	EPA 200.7(A)	
47 Hardness, Total	EPA 130.2(A)	
48 Heat of Combustion	D2015(X)	
49 Herbicides		SW846-8151A(B)
50 Herbicides	EPA 515.1(L)	
51 Hex Chrome		SW846-7196A(B)
52 Hex Chrome	SM183500-Cr-D(Q)	
53 ICP Metals		SW846-6010B(B)
54 ICP Metals	EPA 200.7(A)	
55 Langlier Index	SM182330B(Q)	
56 Lead		SW846-7421(B,C)
57 Lead	EPA 239.2(A,D)	
58 Lead		SW846-7420(B,D)
59 Lead	SM183113B(Q)	
60 MBAS	SM185540-C(Q)	
61 Mercury		SW846-7470A(B)
62 Mercury		SW846-7471A(B)
63 Mercury	EPA 245.1(A)	
64 Mercury	EPA 245.2(A)	
65 Nitrate-AA	SM174500-NO3F(N)	
66 Nitrate-IC	EPA 300(A)	
67 Nitrate-Nitrite	SM184500-NO3F(Q)	
68 Nitrate-Nitrite	LAC107041A(T)	
69 Nitrite	EPA 354.1(A)	
70 Nitrite	SM184500-NO2-B(Q)	
71 Odor	SM182150(Q7)	
72 Organochlorine PSTs		SW846-8081A(B)
73 Organochlorine PSTs	EPA 608(F)	
74 PCB's	EPA 508(H)	
75 Pesticides/PCB's		SW846-8082(B)
76 Pesticides/PCB's	95.3(Z)	95.3(Z)
77 Pesticides/PCB's	EPA 505(H)	
78 pH		SW846-9045C(B)
79 pH	SM184500-H-B(Q)	
80 Phenols		SW846-9065(B)
81 Phenols	EPA 420.A(A)	
82 Phenols	LAC210001A(S)	

83	Phosphate, Ortho	SM184500-PE(Q)	
84	Phosphate, Total	EPA 365.3(A)	
85	Propylene glycol	Modified 8015(B)	
86	Reactivity		SW846-7.3.2(B)
87	Selenium		SW846-7740(B,D)
88	Selenium	EPA 270.2(A,D)	
89	Selenium	SM183113B(Q)	
90	Semi-Volatiles		SW846-8270C(B)
91	Semi-Volatiles	EPA 625(E)	
92	Semi-volatiles	95.2(Z)	95.2(Z)
93	Semi-Volatiles	EPA 525.1(H)	
94	Specific Gravity		D1298-83
95	Specific Conductance	SM182510B(Q)	
96	SS	EPA 160.5(A)	
97	Sulfate		EPA 375.4(A)
98	Sulfate	EPA 375.4(A)	
99	Sulfate	EPA 300(A)	
100	Sulfide		SM184500-S2E(Q)
101	Sulfide	SM184500-S2E(Q)	
102	Sulfite	SM184500-SO3B(Q)	
103	Sulfite		SM184500SO3B(Q)
104	TCLP		SW846-1311(B)
105	TDS	EPA 160.1(A)	
106	TDS	SM182540C(Q)	
107	Temperature	EPA 170.1(A)	
108	Thallium		SW846-7841(B,D)
109	Thallium	EPA 279.2(A,D)	
110	Thallium	EPA 200.9(A)	
111	Tin	EPA 282.2 (A)	
112	TOC	SM185310-B(Q)	
113	Total Kjeldahl Nitrogen	SM184500NH3-F(Q)	
114	Total Kjeldahl Nitrogen	LAC107062D(V)	
115	TOX		SW846-9020B(B)
116	TPH	EPA 418.1(A)	
117	TPH 310.13		LOAC 310.13(P)
118	TPH-Calif.	Calif. DHS 8015	Calif. DHS 8015
119	TS	EPA 160.3(A)	
120	TSS	EPA 160.2(A)	
121	Turbidity	SM182130-B(Q) and EPA 180.1(A)	
122	Volatiles Organics		SW846-8260B(B)
123	Volatiles Organics	EPA 624(E)	
124	Volatiles Organics	EPA 524.2(H)	
125	Volatiles Organics	EPA 502.2(K)	

126 Volatiles Organics	EPA 504.1(H)	
127 Volatiles Organics		SW846-8021B(B)
128 Volatiles Organics	EPA 601(F)	
129 Volatiles Organics	EPA 602(F)	
130 Volatiles Organics	95.1(Z)	95.1(Z)
131 Volatiles Organics	95.4(Z)	95.4(Z)
132 Volatiles Organics	OLC02.1(AB)	
133 Volatiles Organics	OLM03.2(AC)	

References

A. "Methods for Chemical Analysis of Water and Wastewater", EPA-600/4-79-020, March 1983.

B. "Test Methods for Evaluating Solid Waste",USEPA-SW846, Third Edition, September 1986 with all current revisions.

C. Atomic Absorption - Direct Aspiration

D. Atomic Absorption - Furnace Technique

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F. Federal Register, V. 49, No. 209, October 26, 1984.

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I. The Anaylsis of Trihalomethanes in Finished Waters by the Purge and Trap Method, EMSL, Cincinnati, Ohio 45268, November 6, 1979.

J. Volatile Aromatic and Unsaturated Organic Compounds in Water by Purge and Trap Gas Chromatography, EMSL, Cincinnati, Ohio, 45268, Revision 2.0, (1989).

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O. "ASTM, Petroleum Products, Lubricants, and Fossil Fuels, Vol. 5.01 D56-D1947, 1990.

P. " Analytical Handbook for the Laboratory of Organic Analytical Chemistry", Wadsworth Center for Laboratories and Research, New York State Department of Health, August, 1991.

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R. "Determination of Cyanide" (Macro Distillation Method in Waters), QUIK CHEM Method 10-204-00-1-A, Karin Wendt, Revised June 6, 1996, Lachat Instruments, Milwaukee, Wi. 53218

S. "Determination of Total Recoverable Phenols by Flow Injection Analysis Colorimetry", QUIK CHEM Method 10-210-00-1-A, Ninglan Liao, Revised August 6, 1996,

269552

STL Edison
777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice) Paul Nadzan	Samplers Name (Printed)	Client ID: U412
Company STL Edison	P.O. #	State: NY NYSDEC
Address 777 New Durham Road	Analysis Turnaround Time Standard ☐	ANALYSIS REQUESTED (ENTER "X" BELOW TO INDX
City Edison State NJ Zip 08817	Rush Charges Authorized For: 2 Week ☐ 1 Week ☒ Other ☐	
Phone 732-549-3900 Fax 732-549-3679		

Sample Identification	Date	Time	Matrix	No. of. Cont.	NYSDOH 310-3
U412-337190	03/12/02	8:25	ORG	1	X

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____

Soil:
Water:

Special Instructions: PLEASE FAX RESULTS BY 03/21/02

Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
1) Paul Nadzan	STL Edison	3/13/02 1 17:00	1) FED-EX	
2) FED-EX		3/14/02 1 10:00 8,1c	2) [signature]	SR-UBC

Subcontracted to:
STL Newburgh
315 Fullerton Avenue
Newburgh, NY 12550

000011

DATA REPORTING QUALIFIERS

Data qualifiers are used in the analytical report for organics and inorganics. The qualifiers are equivalent to those used by the USEPA in its Contract Laboratory Program.

ORGANIC QUALIFIERS

U - Indicates that the compound was analyzed for but not detected. The sample detection limit is corrected for dilution and percent moisture. This detection limit is not necessarily the instrument detection limit.

J - Indicates an estimated value. This qualifier is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicates the presence of a compound that meets the identification criteria and the result is less than the specified detection limit but greater than zero.

B - Indicates that the analyte was found in both the sample and its associated laboratory blank. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

C - This qualifier applies to pesticide parameters where the identification has been confirmed by gas chromatography/mass spectrometry.

E - This qualifier indicates compounds whose concentrations exceed the calibration range of the instrument for the specific analysis.

D - Indicates all compounds identified in an analysis at a secondary dilution factor.

DL - This suffix indicates a diluted sample and is appended to the sample number on the result form.

N - Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.

P - This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentration between the two GC columns (see Form X). The lower of the two values is reported on Form I and flagged with an "P".

A - This flag indicates that a TIC is a suspected aldol-condensation product.

RE - This suffix indicates a re-analyzed sample and is appended to the sample number on the result form.

RR - This suffix indicates a re-extracted and re-analyzed sample and is appended to the sample number on the result form.

INORGANICS

Concentration Qualifiers (C)

U - Indicates that the analyte was analyzed for but not detected.

B - The reported value is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit (IDL).

Quality Qualifiers (Q)

E - Indicates an estimated value because of the presence of interference.

M - Duplicate injection precision not met.

N - Spiked sample recovery not within control limits.

S - The reported value was determined by the Method of Standard Additions (MSA).

W - Post digestion spike for furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.

* - Duplicate analysis not within control limits.

\+ - Correlation coefficient for the MSA is less than 0.995.

Method Qualifiers (M)

P - for ICP.
A - for Flame AA.
F - for Furnace AA.
PM - for ICP when Microwave Digestion is used.
AM - for Flame AA when Microwave Digestion is used.
FM - for Furnace AA when Microwave Digestion is used.
CV - for Manual Cold Vapor AA.
AV - for Automated Cold Vapor AA.
AS - for Semi-Automated Spectrophotometric
C - for Manual Spectrophotometric
T - for Titrimetric.
NR - if the analyte is not required to be analyzed.

3B

OIL TPH BLANK SPIKE RECOVERY

Lab Name: STL Newburgh Client Name: STL-Edison

Matrix Spike - Client Sample No.: BLKSPK318

Matrix Spike - STE Sample No.: BLKSPK318

Instrument ID: GC#1

Date of Analysis: 3/20/02

COMPOUND	SPIKE ADDED (mg/kg)	SAMPLE CONCENTRATION (mg/kg)	BS CONCENTRATION (mg/kg)	BS % REC #	QC. LIMITS REC.
TPH	128.0	0.0	106.0	83	(46-124)

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Comments:

SEVERN TRENT SERVICES

STL Newburgh is a part of Severn Trent Laboratories, Inc.

000014

NYSDOH 10142 NJDEP 73015 CTDOHS PH-0564 EPA NY049 FA 88-378 M-NY049

STL Newburgh
315 Fullerton Avenue
Newburgh, NY 12550
Tel (845) 562-0890
Fax (845) 562-0841

4A

CLIENT SAMPLE NO.

BLK318

TPH METHOD BLANK SUMMARY

Lab Name: STL Newburgh Contract:

Lab Code: 10142 Instrument ID: GC#1

Date Analyzed: 3/20/02 Matrix: Oil Method: 310.13

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID
01	BLKSPK318	BLKSPK318
02	U421-337190	209552-01
03		
04		
05		
06		
07		
08		
09		
10		
11		
12		
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14		
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26		
27		
28		
29		
30		

COMMENTS:

FORM IV TPH

LABORATORY TEST RESULTS

Job Number: 209552

Date: 03/27/2002

CUSTOMER: STL Edison | PROJECT: U412 | ATTN: Paul Nadzen

Customer Sample ID: U412-337190
Date Sampled.....: 03/12/2002
Time Sampled.....: 08:25
Sample Matrix.....: Water

Laboratory Sample ID: 209552-1
Date Received.....: 03/14/2002
Time Received.....: 10:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
310.13	Fuel Oil #1	96000	U		96000	mg/Kg	03/21/02	ljc
310.13	Fuel Oil #2	330000			96000	mg/Kg	03/21/02	ljc
310.13	Fuel Oil #4	96000	U		96000	mg/Kg	03/21/02	ljc
310.13	Fuel Oil #6	96000	U		96000	mg/Kg	03/21/02	ljc
310.13	Gasoline	Not Present			N/A	mg/Kg	03/21/02	ljc
310.13	Lube Oil	Not Present			N/A	mg/Kg	03/21/02	ljc
310.13	Unknown Hydrocarbon	Not Present			N/A	mg/Kg	03/21/02	ljc

In Description = Dry Wgt.

SEVERN TRENT SERVICES

STL Newburgh is a part of Severn Trent Laboratories, Inc.

000016

NYSDOH 10142 | NJDEP 73018 | CTDOHS PH-0884 | EPA NY040 | PA 68-376 | M-NY040

STL Newburgh
315 Fullerton Avenue
Newburgh, NY 12550
Tel (845) 562-0890
Fax (845) 562-0841

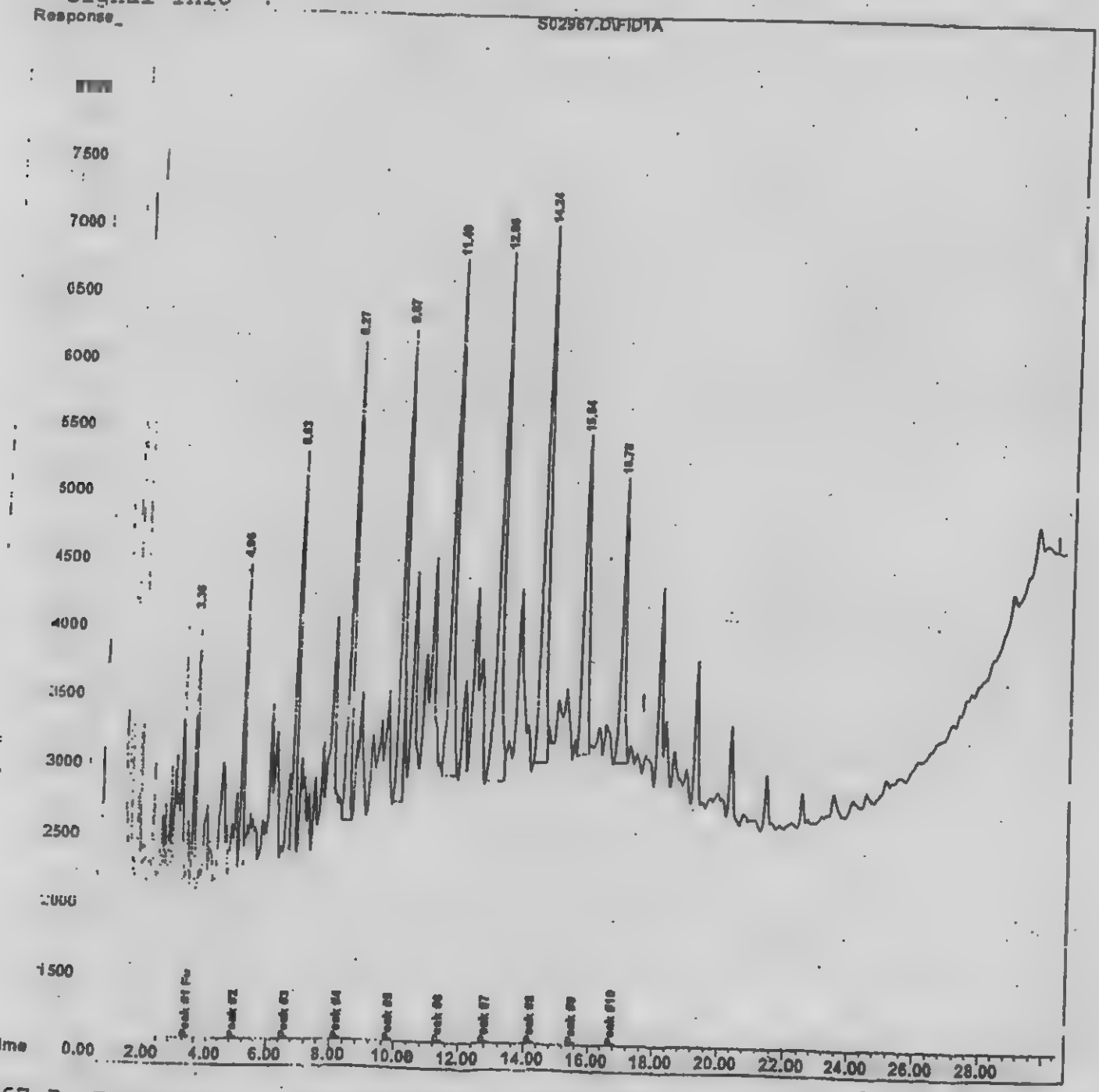
U412

Data File : C:\HPCHEM\1\DATA\032002.B\S02967.D
Acq On : 21 Mar 2002 12:09 am
Sample : 209552-01 X100
Misc : STL EDISON
IntFile : rteint.p
Quant Time: Mar 21 9:45 2002 Quant Results File: TPH310.RES

Vial: 10
Operator: L CERCONE
Inst : GC#1
Multiplr: 1.00

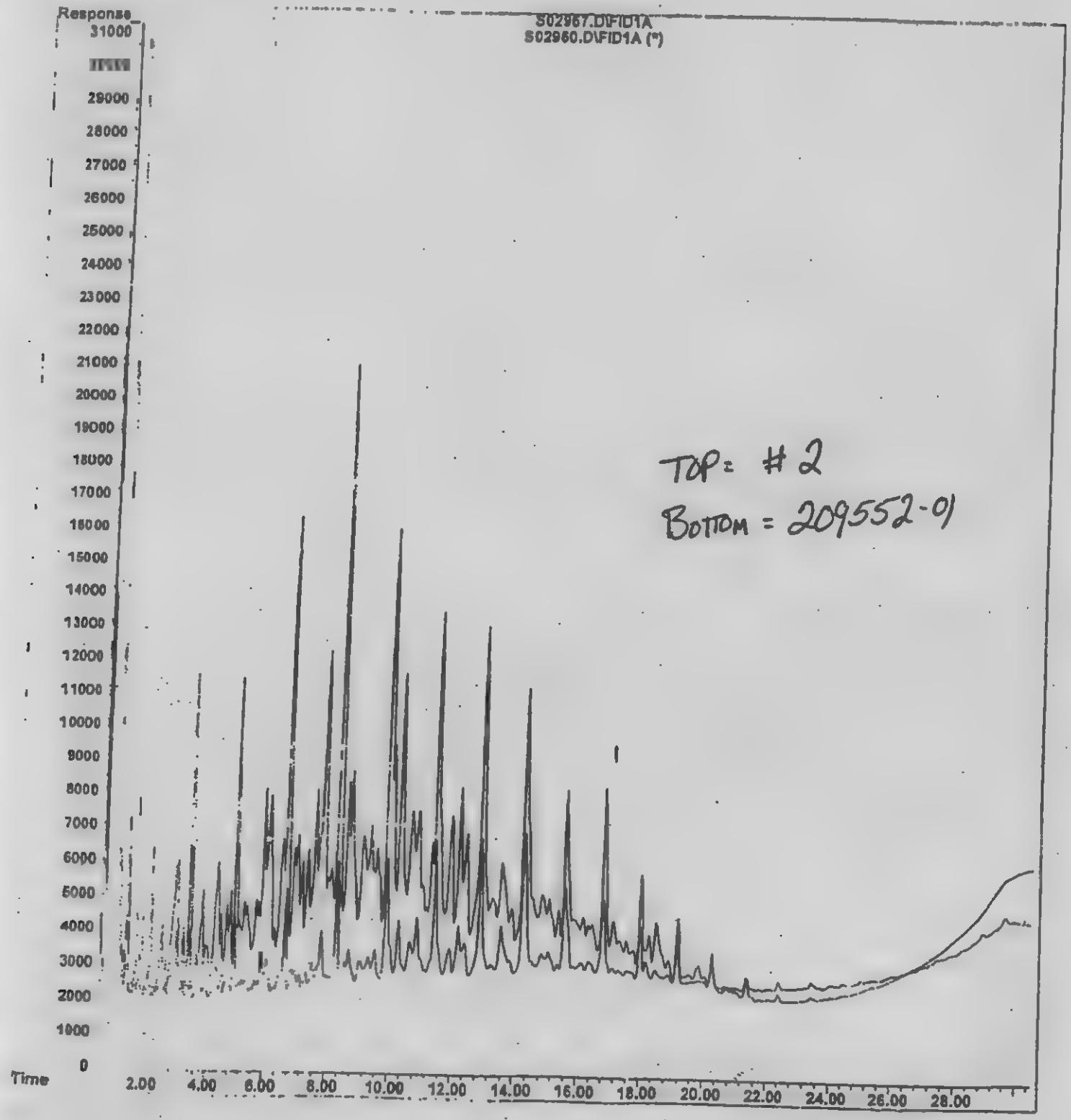
Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Thu Mar 21 09:43:58 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



U412

File : C:\HPCHEM\1\DATA\032002.B\S02967.D
Operator : L CERCONE
Acquired : 21 Mar 2002 12:09 am using AcqMethod TPH310.M
Instrument : GC#1
Sample Name: 209552-01 X100
Misc Info : STL EDISON
Vial Number: 10



000018

U412

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\032002.B\S02967.D
Acq On : 21 Mar 2002 12:09 am
Sample : 209552-01 X100
Misc : STL EDISON
IntFile : rteint.p
Quant Time: Mar 21 9:45 2002 Quant Results File: TPH310.RES

Vial: 10
Operator: L CERCONE
Inst : GC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Thu Mar 21 09:43:58 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\032002.B\S02960.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

		Compound	R.T.	Response	Conc Units
Target Compounds					
1)	t	Peak #1 Fuel Oil #2	3.36	8567	0.216 mg/l
2)	t	Peak #2	4.95	10689	0.266 mg/l
3)	t	Peak #3	6.63	16728	0.230 mg/l
4)	t	Peak #4	8.27	22736	0.217 mg/l
5)	t	Peak #5	9.87	25551	0.296 mg/l
6)	t	Peak #6	11.40	30694	0.419 mg/l
7)	t	Peak #7	12.85	34090	0.380 mg/l
8)	t	Peak #8	14.24	38933	0.471 mg/l
9)	t	Peak #9	15.54	23169	0.605 mg/l
10)	t	Peak #10	16.78	17282	0.458 mg/l

000019

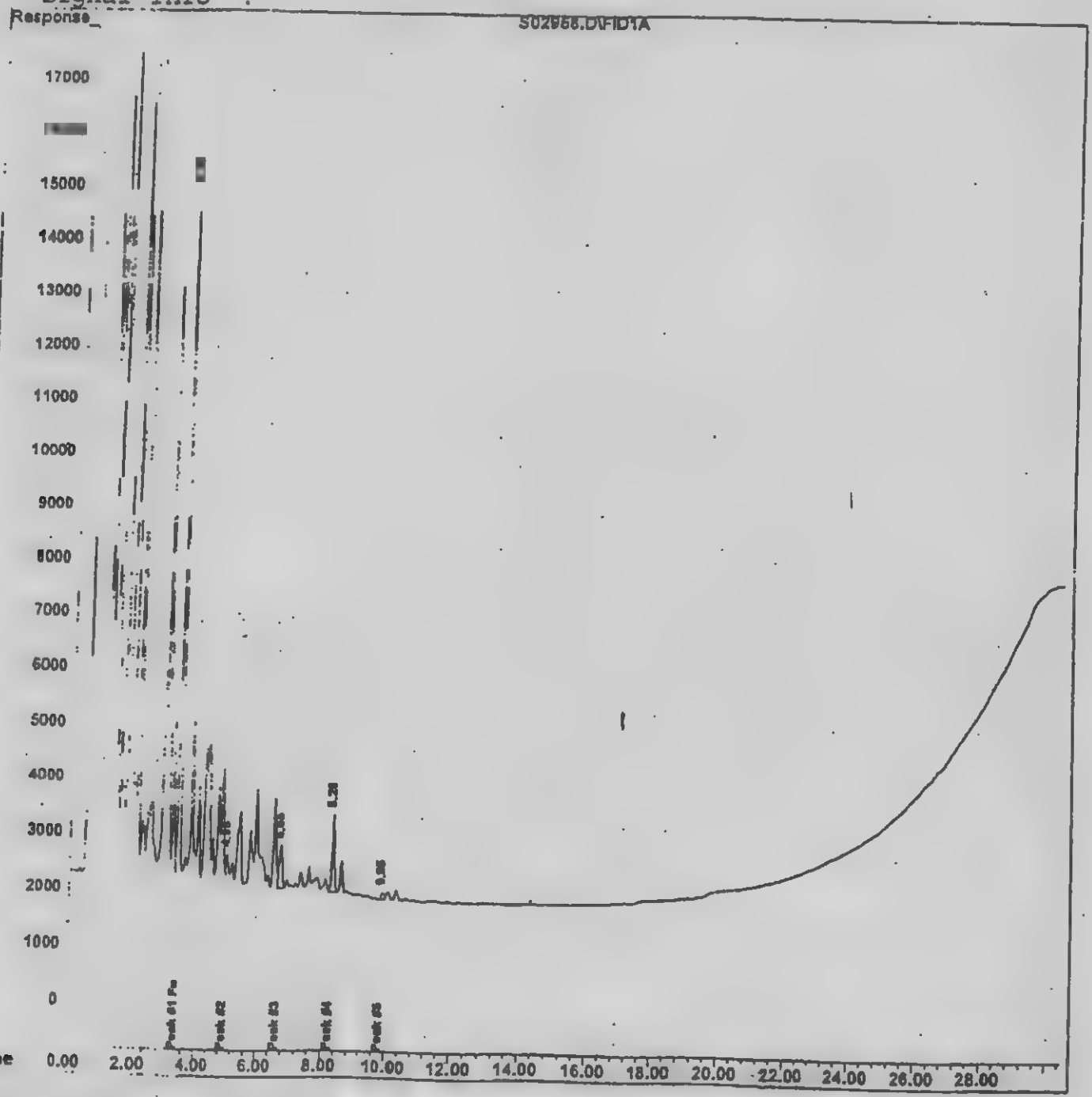
(f)=RT Delta > 1/2 Window
(m)=manual int.

Data File : C:\HPCHEM\1\DATA\032002.B\S02958.D
Acq On : 20 Mar 2002 6:38 pm
Sample : GASOLINE
Misc :
IntFile : rteint.p
Quant Time: Mar 21 9:44 2002 Quant Results File: TPH310.RES

Vial: 2
Operator: L CERCONE
Inst : GC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Thu Mar 21 09:43:58 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : C:\HPCHEM\1\DATA\032002.B\S02958.D Vial: 2
Acq On : 20 Mar 2002 6:38 pm Operator: L CERCONE
Sample : GASOLINE Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Mar 21 9:44 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Thu Mar 21 09:43:58 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\032002.B\S02960.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

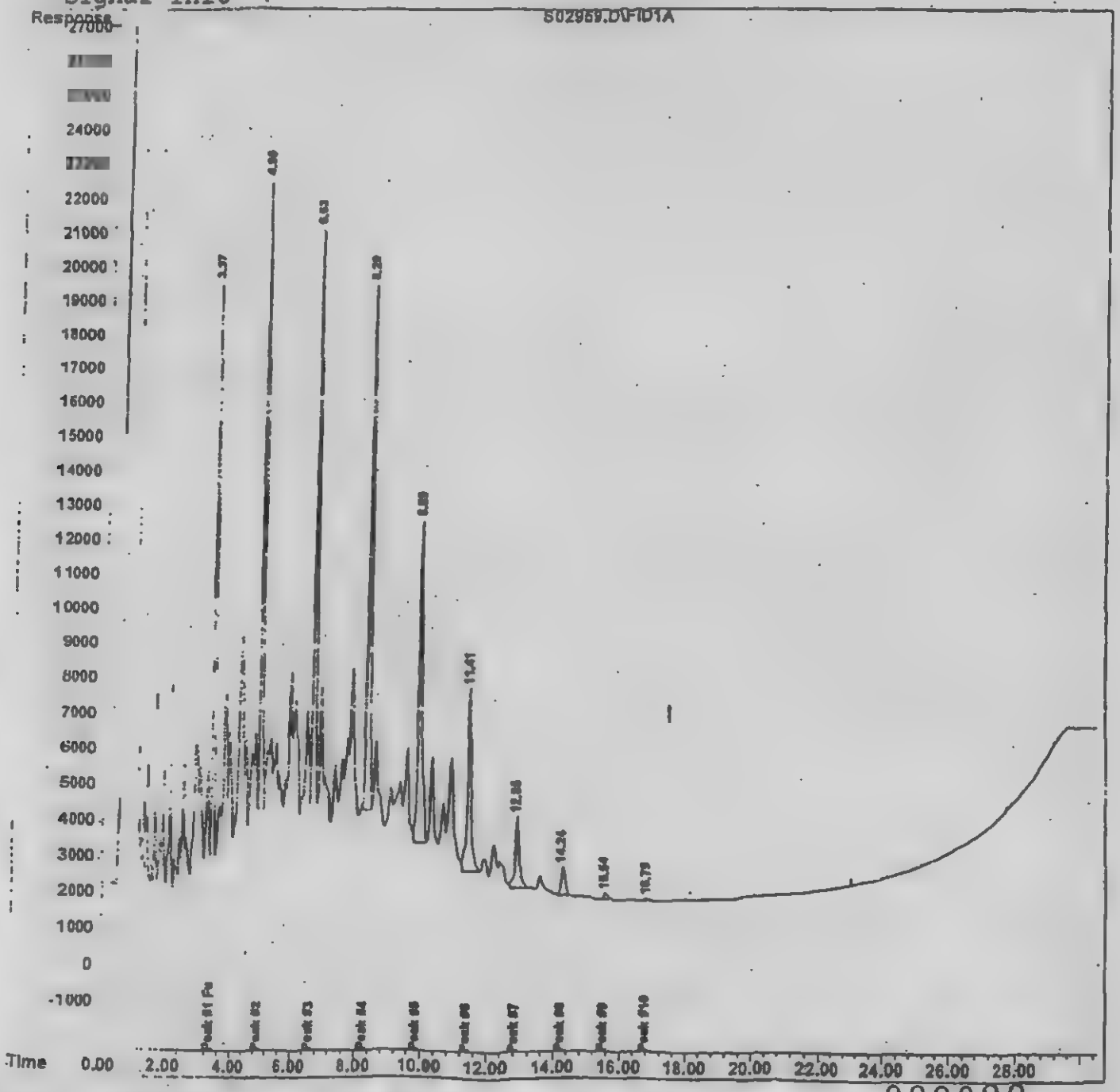
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1) t	Peak #1 Fuel Oil #2	3.35	49632	1.254	mg/l
2) t	Peak #2	4.95	1564	0.039	mg/l
3) t	Peak #3	6.65	5078	0.070	mg/l
4) t	Peak #4	8.26	7402	0.071	mg/l
5) t	Peak #5	9.85	866	0.010	mg/l
6) t	Peak #6	0.00	0	N.D.	mg/l
7) t	Peak #7	0.00	0	N.D.	mg/l
8) t	Peak #8	0.00	0	N.D.	mg/l
9) t	Peak #9	0.00	0	N.D.	mg/l
10) t	Peak #10	0.00	0	N.D.	mg/l

000021

Data File : C:\HPCHEM\1\DATA\032002.B\S02959.D Vial: 3
Acq On : 20 Mar 2002 7:15 pm Operator: L CERCONE
Sample : FUEL OIL #1 Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Mar 21 10:24 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Thu Mar 21 09:43:58 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



U412

Data File : C:\HPCHEM\1\DATA\032002.B\S02959.D Vial: 3
Acq On : 20 Mar 2002 7:15 pm Operator: L CERCONE
Sample : FUEL OIL #1 Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Mar 21 10:24 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Thu Mar 21 09:43:58 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\032002.B\S02960.D
DataAcq Meth : TPH310.M

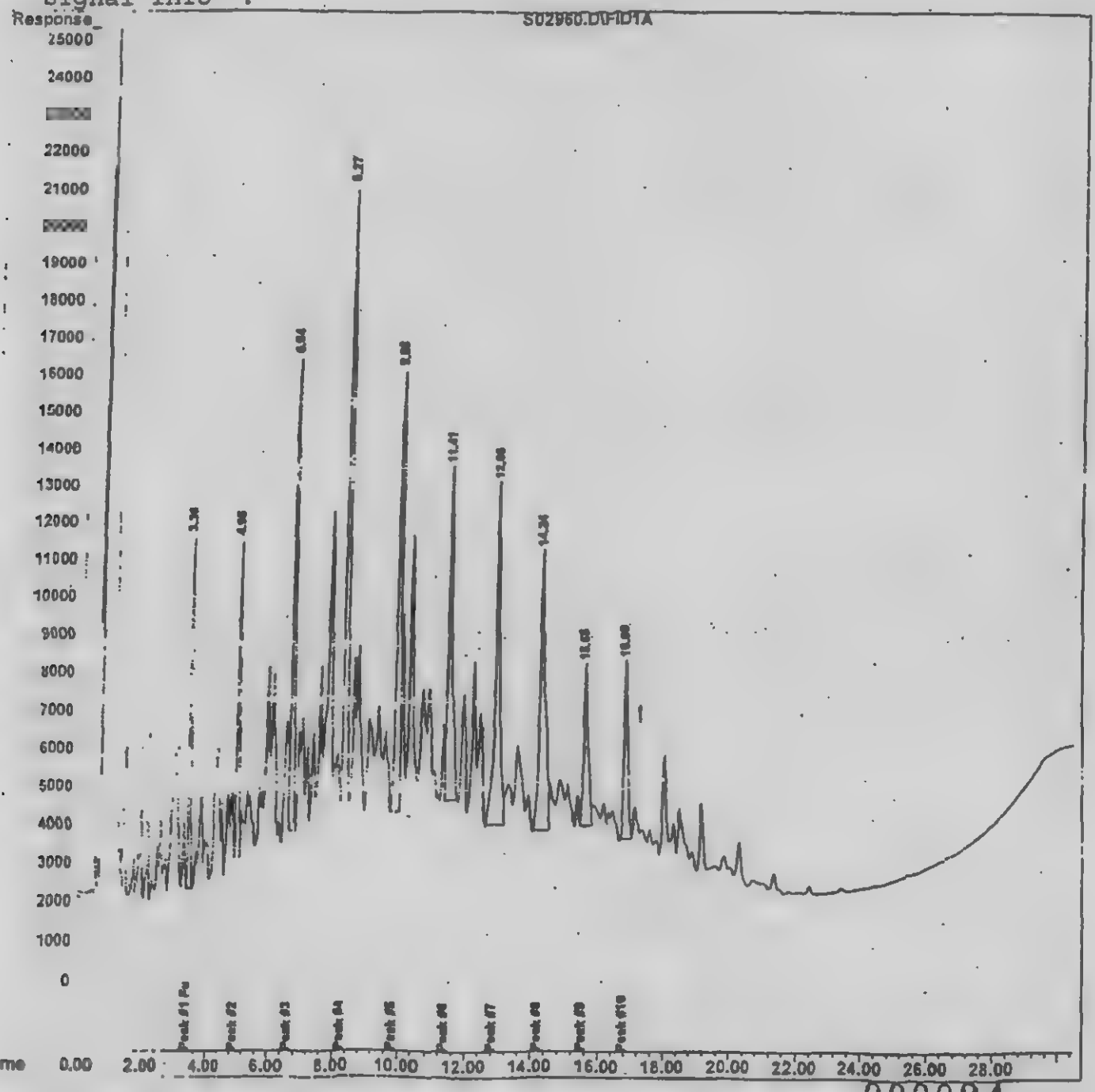
Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	Target Compounds			
1)	t Peak #1 Fuel Oil #2	3.37	69887	1.766 mg/l
2)	t Peak #2	4.95	90796	2.261 mg/l
3)	t Peak #3	6.63	89897	1.234 mg/l
4)	t Peak #4	8.29	91831	0.876 mg/l
5)	t Peak #5	9.89	69005	0.801 mg/l
6)	t Peak #6	11.41	40997	0.560 mg/l
7)	t Peak #7	12.85	16473	0.183 mg/l
8)	t Peak #8	14.24	7586	0.092 mg/l
9)	t Peak #9	15.54	1296	0.034 mg/l
10)	t Peak #10	16.79	452	0.012 mg/l m

Data File : C:\HPCHEM\1\DATA\032002.B\S02960.D Vial: 4
Acq On : 20 Mar 2002 7:52 pm Operator: L CERCONE
Sample : FUEL OIL #2 Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Mar 21 9:43 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



U412

Data File : C:\HPCHEM\1\DATA\032002.B\S02960.D
Acq On : 20 Mar 2002 7:52 pm
Sample : FUEL OIL #2
Misc :
IntFile : rteint.p
Quant Time: Mar 21 9:43 2002 Quant Results File: TPH310.RES

Vial: 4
Operator: L CERCONE
Inst : GC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Tue Feb 19 13:25:57 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\030502.B\S02899.D
DataAcq Meth : TPH310.M

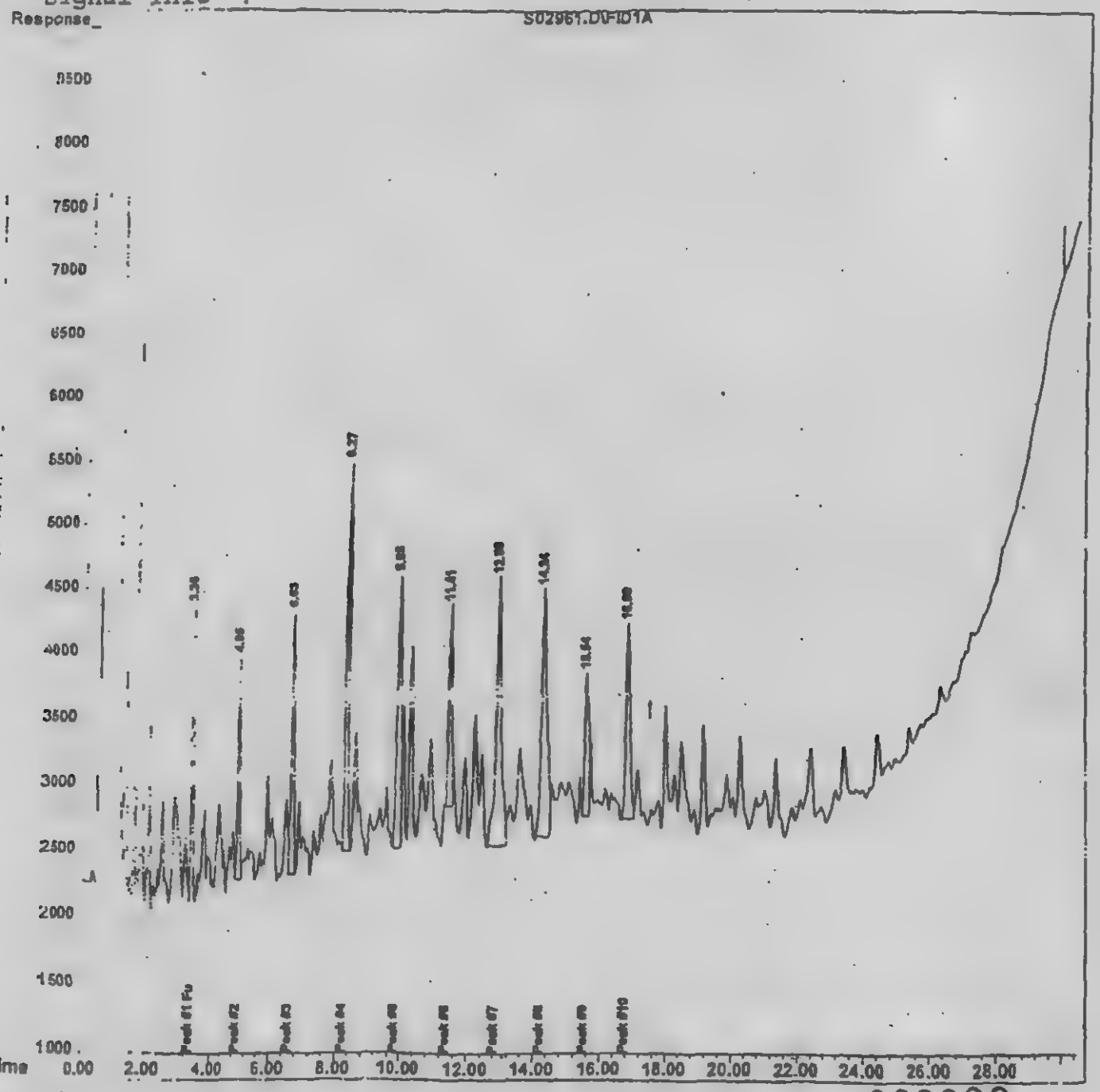
Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	Target Compounds			
1)	t Peak #1 Fuel Oil #2	3.36	39584	0.948 mg/l
2)	t Peak #2	4.95	40151	0.952 mg/l
3)	t Peak #3	6.64	72837	0.959 mg/l
4)	t Peak #4	8.27	104868	0.958 mg/l
5)	t Peak #5	9.88	86178	0.956 mg/l
6)	t Peak #6	11.41	73263	0.945 mg/l
7)	t Peak #7	12.86	89819	0.944 mg/l
8)	t Peak #8	14.24	82647	0.927 mg/l
9)	t Peak #9	15.55	38293	0.951 mg/l
10)	t Peak #10	16.80	37737	0.940 mg/l

Data File : C:\HPCHEM\1\DATA\032002.B\S02961.D Vial: 5
Acq On : 20 Mar 2002 8:29 pm Operator: L CERCONE
Sample : FUEL OIL #4 Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Mar 21 9:44 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Thu Mar 21 09:43:58 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



U412

Data File : C:\HPCHEM\1\DATA\032002.B\S02961.D
Acq On : 20 Mar 2002 8:29 pm
Sample : FUEL OIL #4
Misc :
IntFile : rteint.p
Quant Time: Mar 21 9:44 2002 Quant Results File: TPH310.RES

Vial: 5
Operator: L CERCONE
Inst : GC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Thu Mar 21 09:43:58 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\032002.B\S02960.D
DataAcq Meth : TPH310.M

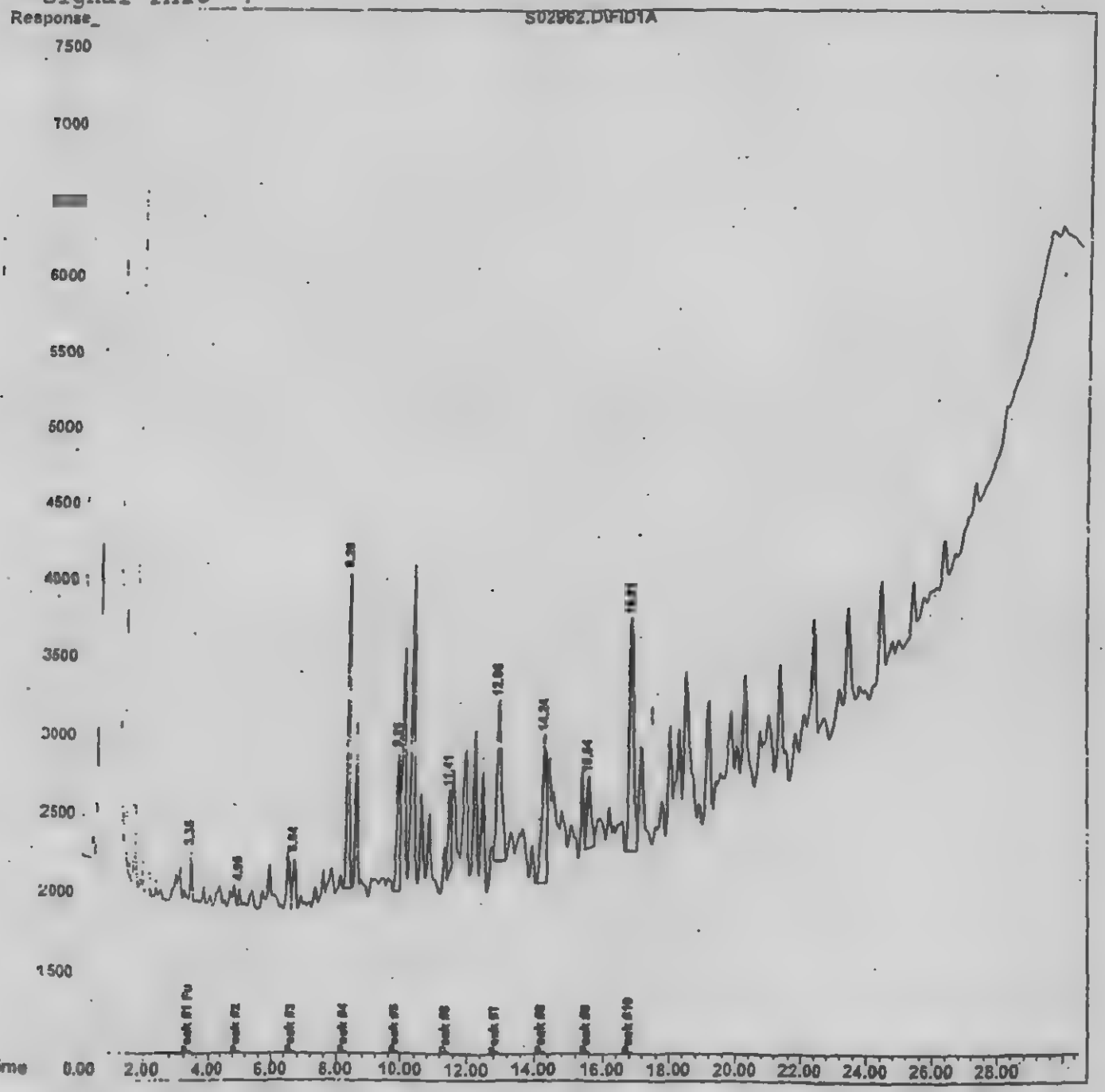
Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
Target Compounds				
1) t	Peak #1 Fuel Oil #2	3.36	9719	0.246 mg/l
2) t	Peak #2	4.95	8099	0.202 mg/l
3) t	Peak #3	6.63	11442	0.157 mg/l
4) t	Peak #4	8.27	18386	0.175 mg/l
5) t	Peak #5	9.88	14867	0.173 mg/l
6) t	Peak #6	11.41	9138	0.125 mg/l
7) t	Peak #7	12.85	20842	0.232 mg/l
8) t	Peak #8	14.24	21459	0.260 mg/l
9) t	Peak #9	15.54	8205	0.214 mg/l
10) t	Peak #10	16.80	12728	0.337 mg/l

Data File : C:\HPCHEM\1\DATA\032002.B\S02962.D Vial: 6
Acq On : 20 Mar 2002 9:05 pm Operator: L CERCONE
Sample : FUEL OIL #6 Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Mar 21 10:25 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Thu Mar 21 09:43:58 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



U412

Data File : C:\HPCHEM\1\DATA\032002.B\S02962.D
Acq On : 20 Mar 2002 9:05 pm
Sample : FUEL OIL #6
Misc :
IntFile : rteint.p
Quant Time: Mar 21 10:25 2002 Quant Results File: TPH310.RES

Vial: 6
Operator: L CERCONE
Inst : GC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Thu Mar 21 09:43:58 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\032002.B\S02960.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
Target Compounds				
1) t	Peak #1 Fuel Oil #2	3.35	1246	0.031 mg/l
2) t	Peak #2	4.95	474	0.012 mg/l m
3) t	Peak #3	6.64	2060	0.028 mg/l
4) t	Peak #4	8.26	10618	0.101 mg/l
5) t	Peak #5	9.86	6101	0.071 mg/l
6) t	Peak #6	11.41	2987	0.041 mg/l
7) t	Peak #7	12.86	9133	0.102 mg/l
8) t	Peak #8	14.24	8779	0.106 mg/l
9) t	Peak #9	15.54	3690	0.096 mg/l
10) t	Peak #10	16.81	14110	0.374 mg/l

Data File : C:\HPCHEM\1\DATA\032002.B\S02963.D Vial: 7
Acq On : 20 Mar 2002 9:42 pm Operator: L CERCONE
Sample : LUBE OIL Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Mar 21 10:26 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Thu Mar 21 09:43:58 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\032002.B\S02960.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units	
	Target Compounds					
1)	t Peak #1 Fuel Oil #2	0.00	0	N.D.	mg/l	
2)	t Peak #2	0.00	0	N.D.	mg/l	
3)	t Peak #3	0.00	0	N.D.	mg/l	
4)	t Peak #4	0.00	0	N.D.	mg/l	
5)	t Peak #5	0.00	0	N.D.	mg/l	
6)	t Peak #6	0.00	0	N.D.	mg/l	
7)	t Peak #7	0.00	0	N.D.	mg/l	
8)	t Peak #8	14.24	1222	0.015	mg/l	m
9)	t Peak #9	15.54	2104	0.055	mg/l	
10)	t Peak #10	16.78	2388	0.063	mg/l	

000031

(f)=RT Delta > 1/2 Window (m)=manual int.

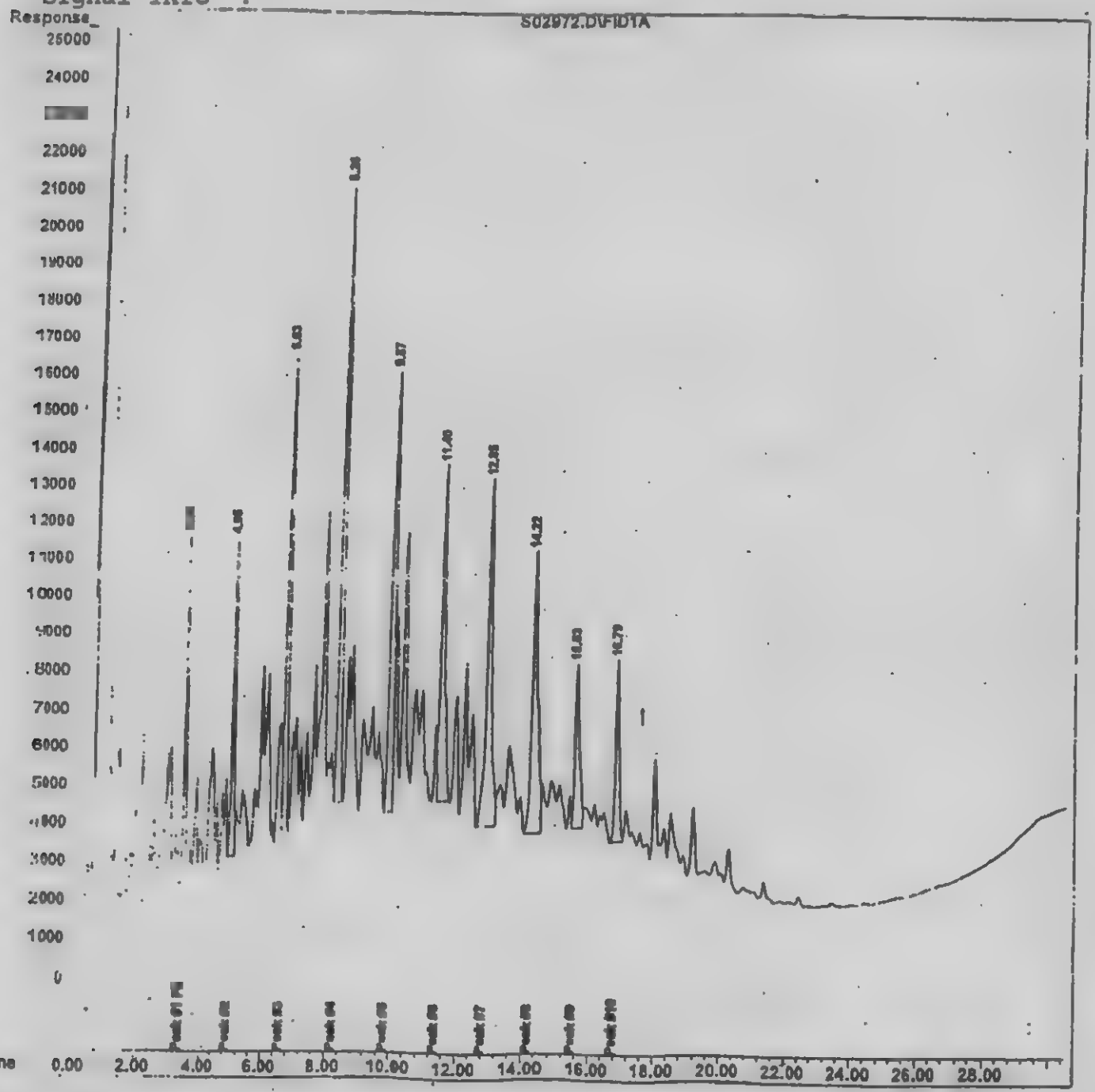
U412

Data File : C:\HPCHEM\1\DATA\032002.B\S02972.D
Acq On : 21 Mar 2002 3:13 am
Sample : FUEL OIL #2
Misc :
IntFile : rteint.p
Quant Time: Mar 21 9:45 2002 Quant Results File: TPH310.RES

Vial: 4
Operator: L CERCONE
Inst : GC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Thu Mar 21 09:43:58 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : C:\HPCHEM\1\DATA\032002.B\S02972.D
Acq On : 21 Mar 2002 3:13 am
Sample : FUEL OIL #2
Misc :
IntFile : rteint.p
Quant Time: Mar 21 9:45 2002 Quant Results File: TPH310.RES

Vial: 4
Operator: L CERCONE
Inst : GC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Thu Mar 21 09:43:58 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\032002.B\S02960.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

		Compound	R.T.	Response	Conc Units
		Target Compounds			
1)	t	Peak #1 Fuel Oil #2	3.36	39944	1.009 mg/l
2)	t	Peak #2	4.95	40449	1.007 mg/l
3)	t	Peak #3	6.63	73838	1.014 mg/l
4)	t	Peak #4	8.26	105687	1.008 mg/l
5)	t	Peak #5	9.87	86354	1.002 mg/l
6)	t	Peak #6	11.40	74204	1.013 mg/l
7)	t	Peak #7	12.85	91173	1.015 mg/l
8)	t	Peak #8	14.22	83605	1.012 mg/l
9)	t	Peak #9	15.53	38857	1.015 mg/l
10)	t	Peak #10	16.79	38484	1.020 mg/l

Actual = 855
Obs = 864

TPH 310.13

Client ID: BLK318
STL Lab No.: BLK318
Client Name: STL-Edison
Project Name: U412
% Solid: 100
Matrix: oil
Sample Wt/Vol: 6.66 g
Level: Low

Date Collected:
Date Received:
Date Extracted: 3/18/02
Date Analyzed: 3/20/02
Report Date: 3/27/02
Column: Rtx-5
Lab File ID: 02965.D
Dilution Factor: 1

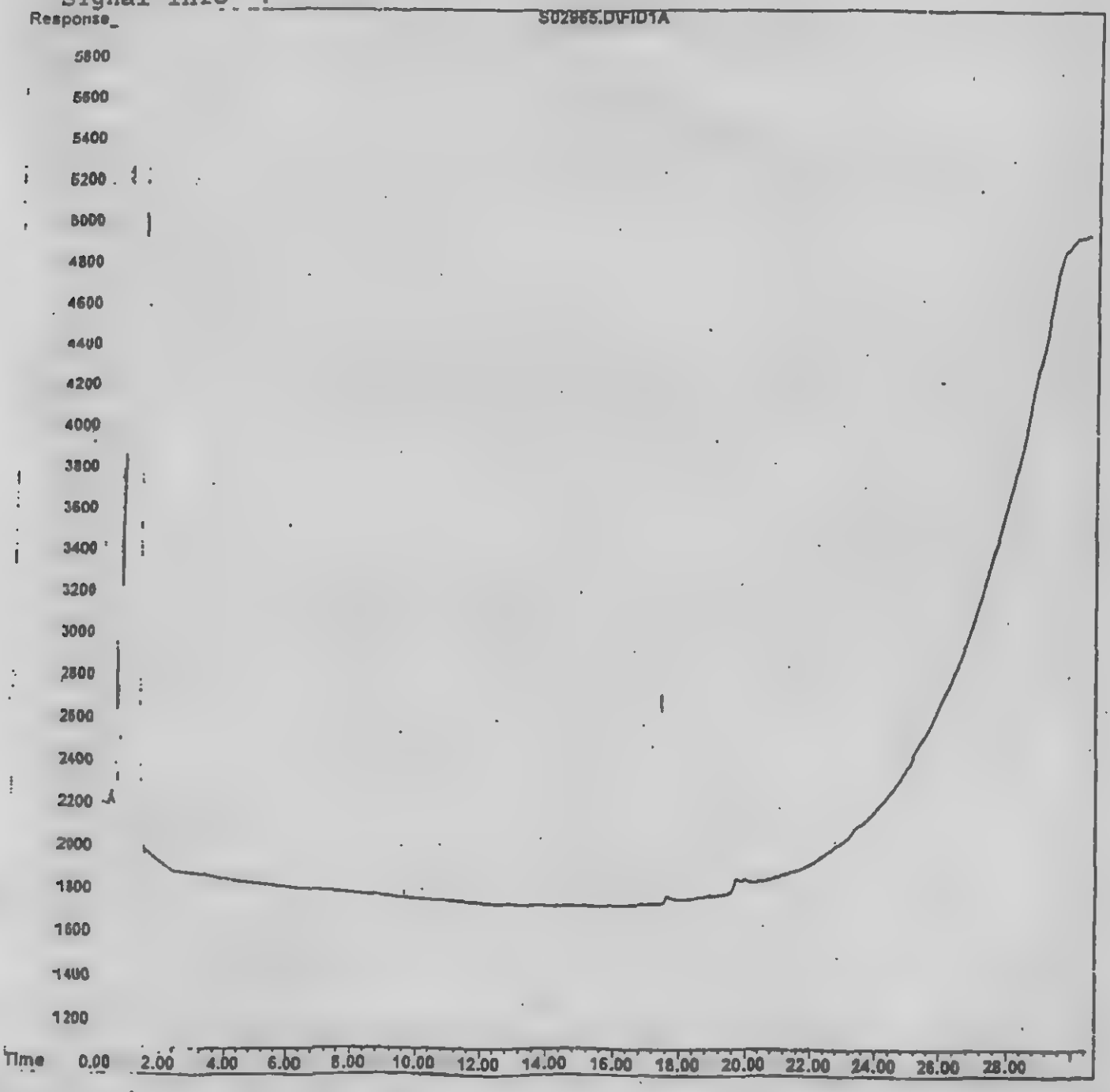
CAS No.	Compound	Detection Limit mg/kg	Conc mg/kg
	Fuel Oil #1	13.0	U
	Fuel Oil #2	13.0	U
	Fuel Oil #4	13.0	U
	Fuel Oil #6	13.0	U
	Gasoline		not present
	Lube Oil		not present
	Unleaded Hydrocarbon		not present

FORM I - TPH

Data File : C:\HPCHEM\1\DATA\032002.B\S02965.D Vial: 8
Acq On : 20 Mar 2002 10:56 pm Operator: L CERCONE
Sample : BLANK318 Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Mar 21 9:45 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Thu Mar 21 09:43:58 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



000035

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\032002.B\S02965.D
Acq On : 20 Mar 2002 10:56 pm
Sample : BLANK318
Misc :
IntFile : rteint.p
Quant Time: Mar 21 9:45 2002 Quant Results File: TPH310.RES

Vial: 8
Operator: L CERCONE
Inst : GC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Thu Mar 21 09:43:58 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\032002.B\S02960.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) t Peak #1 Fuel Oil #2	0.00	0	N.D.	mg/l
2) t Peak #2	0.00	0	N.D.	mg/l
3) t Peak #3	0.00	0	N.D.	mg/l
4) t Peak #4	0.00	0	N.D.	mg/l
5) t Peak #5	0.00	0	N.D.	mg/l
6) t Peak #6	0.00	0	N.D.	mg/l
7) t Peak #7	0.00	0	N.D.	mg/l
8) t Peak #8	0.00	0	N.D.	mg/l
9) t Peak #9	0.00	0	N.D.	mg/l
10) t Peak #10	0.00	0	N.D.	mg/l

TPH 310.13

Client ID: BLKSPK318
STL Lab No.: BLKSPK318
Client Name: STL-Edison
Project Name: U412
% Solid: 100
Matrix: Soil
Sample Wt/Vol.: 6.66 g
Level: Low

Date Collected:
Date Received:
Date Extracted: 3/18/02
Date Analyzed: 3/20/02
Report Date: 3/27/02
Column: Rtx-5
Lab File ID: 02966.D
Dilution Factor: 1

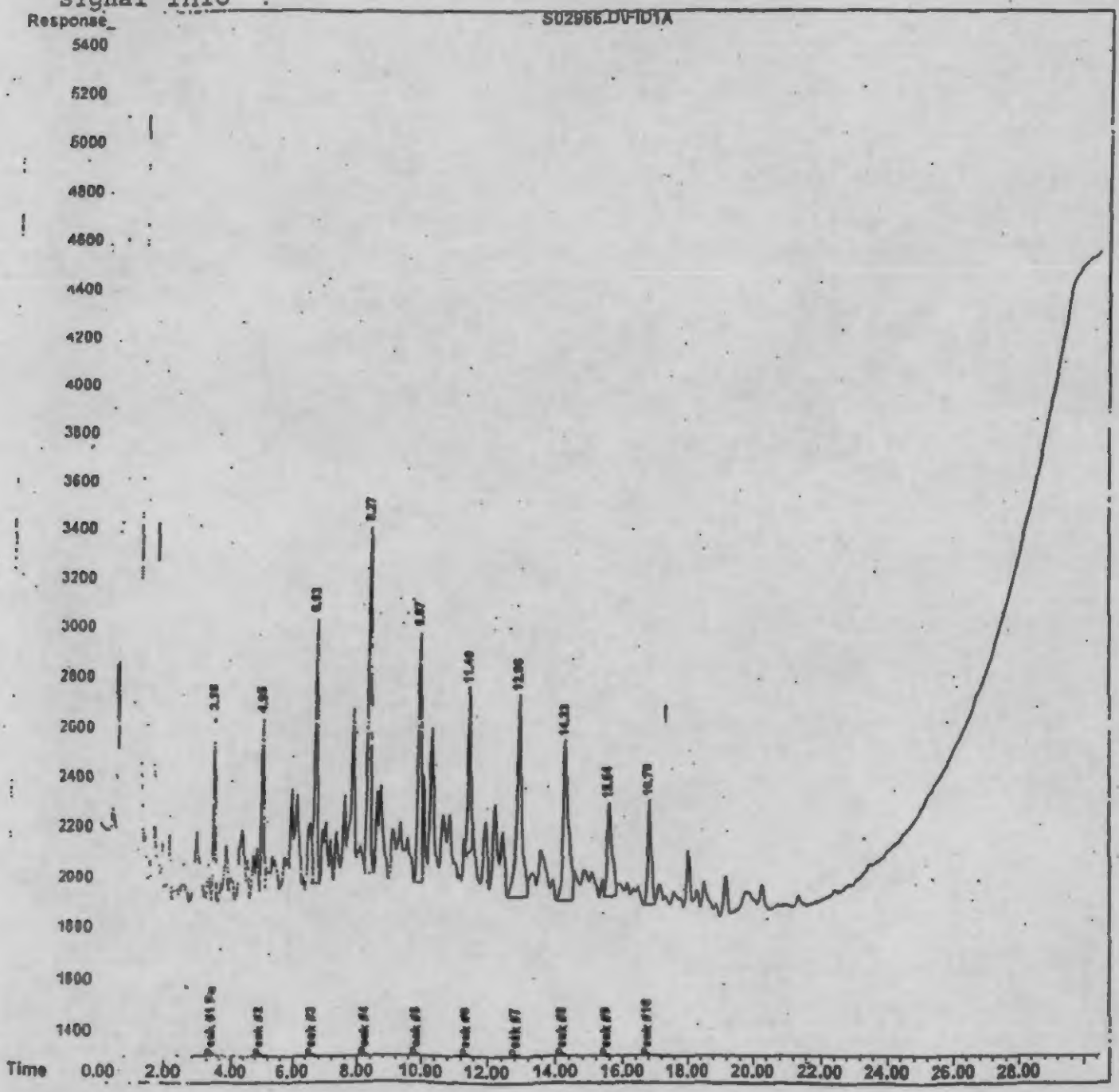
CAS No.	Compound	Detection Limit mg/kg	Conc mg/kg
	Fuel Oil #1	13.0	U
	Fuel Oil #2	13.0	110.0
	Fuel Oil #4	13.0	U
	Fuel Oil #6	13.0	U
	Gasoline		not present
	Lube Oil		not present
	Unknown Hydrocarbon		not present

FORM I - TPH

Data File : C:\HPCHEM\1\DATA\032002.B\S02966.D Vial: 9
Acq On : 20 Mar 2002 11:32 pm Operator: L CERCONE
Sample : BLKSPK318 Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Mar 21 9:45 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Thu Mar 21 09:43:58 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : C:\HPCHEM\1\DATA\032002.B\S02966.D Vial: 9
Acq On : 20 Mar 2002 11:32 pm Operator: L CERCONE
Sample : BLKSPK318 Inst : GC#1
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Mar 21 9:45 2002 Quant Results File: TPH310.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH310.M (RTE Integrator)
Title :
Last Update : Thu Mar 21 09:43:58 2002
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\032002.B\S02960.D
DataAcq Meth : TPH310.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
Target Compounds				
1) t	Peak #1 Fuel Oil #2	3.36	3267	0.083 mg/l
2) t	Peak #2	4.95	3296	0.082 mg/l
3) t	Peak #3	6.63	6144	0.084 mg/l
4) t	Peak #4	8.27	8854	0.084 mg/l
5) t	Peak #5	9.87	7351	0.085 mg/l
6) t	Peak #6	11.40	3958	0.054 mg/l
7) t	Peak #7	12.86	8089	0.090 mg/l
8) t	Peak #8	14.23	7244	0.088 mg/l
9) t	Peak #9	15.54	3369	0.088 mg/l
10) t	Peak #10	16.79	3382	0.090 mg/l

Extraction Log

Start Date 3/18/02 Stop Date _____ Extraction Type _____ Please Specify

Lab Number	Sample No.	Initial Volume	TCLP Volume	Final Volume	Batch Number	Extract Date	Extract Time	Conc. Date	pH	% Moisture	Analyst	Comments
BLK	TPH 310			10 mls		3/18/02	16:00	3/18/02			JPM	
BLK SPK												
209552-01		0.8880										
209595-01		0.8633										
209610-01		0.8168										
209610-02		0.8436										

000045

QC: A blank and blank spike must be prepared each time samples are extracted. An MS/MSD must be prepared for every 20 samples that are extracted or every week whichever is more frequent.

STL Coordinated to Your Success
NVSTCM VA47 NJDEP 73015 CTDOHS PH-0554 EPA NY048 PA 68-378 M-NY048
315 Fullerton Avenue
Newburgh, NY 12550
Tel: (914) 562-0690
Fax: (914) 562-0641

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This is the Last Page of the Document